DOCUMENT RESUME

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ABSTRACT

This booklet provides information and examples from the Mathematics Missouri Assessment Program (MAP) for elementary levels, given in the spring of 1998. These materials include the released items, anchor papers, and scoring guides. The MAP items consist of constructed responses and performance tasks from the state assessment. Anchor papers were selected from student work and represent the different levels of achievement as established through the scoring guides. There are several errors in general that seem to be prevalent among students. Students should be instructed in ways that will help them avoid such errors. Six strategies that should be emphasized to students at all levels to avoid those errors are presented. (Author/ASK)

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Navigating the MAP: *Mathematics*

ELEMENTARY

- Released Items
- Scoring Guides
- Anchor Papers

Spring 1998

Missouri Department of Elementary and Secondary Education

SE 030619

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Introduction

This booklet provides information and examples from the Mathematic's Missouri Assessment Program (MAP), given in the spring of 1998. These materials include the released items, anchor papers and scoring guides. The MAP items consist of constructed responses and performance tasks from the state assessment. No *TerraNova* items (multiple choice format) are being released.

Anchor papers were selected from student work and represent the different levels of achievement as established through the scoring guides. Student work is evaluated against these anchors to determine the appropriate student score. Annotations (in boxes) or on corresponding pages are shown with each anchor to explain the reason for assigning the indicted score.

There are several errors that in general seem to be prevalent among students. Students should be instructed in ways that will help them avoid such errors. The following strategies should be emphasized to students at all levels:

1 ***Show work***

If the prompt asks for work to be shown then the student must include this work in the response. The ability to demonstrate the process is a major focus for constructed responses and performance events.

2 ***Communicate ideas clearly***

Student work must be organized and clearly communicate the ideas of problem solving. Individuals scoring these items are instructed not to second guess what the student has proposed as a response. Work should indicate logical and sequential steps that clearly demonstrate student understanding.

3 ***Determine reasonableness of solution***

In many questions, solutions were given that were quite unreasonable. Students should be encouraged to reflect upon their response in relation to the information provided and to what the prompt is requesting. In cases where basic computations were involved, good estimation skills would be most beneficial.

4 ***Check all conditions***

Some items(especially performance tasks) require multiple conditions to be met. Students may find an appropriate solution but may not demonstrate that this satisfies all of the conditions indicated in the problem. Students must indicate that conditions are met and that the proposed solution is appropriate.

5 ***Choosing correct operations and formulas***

Some students solve word problems by simply counting the number of numbers that may appear in the problem or use inappropriate formulas based upon word expressions given in the problems. For example, students might select to use addition because several numbers are listed without little recognition of the problem content. Students must read for understanding and have a repertoire of problem solving strategies.

6 ***Inappropriate use of tools***

Students had problems using some of the manipulatives provided. Students at grade 4 could not associate the correct geometric names with individual pattern blocks. In higher grades, many students could not appropriately read a protractor or make correct substitutions in formulas.

Released Items

Session 1

68929-98

This picture means that you will use your ruler.

This picture means that you will use your coins.

This picture means that you will use your pattern blocks.

Missouri History Day

Directions

Numbers 1 through 6 are about Missouri History Day. You and your classmates will go to a museum to be a part of the celebration. Show all of your work and write your answers directly in this booklet.

1 At the first display you see Native American beads. Look at the pattern of the beads. Draw the next 3 beads in the pattern on the string.

2 The next display shows a map of some cities in Missouri.

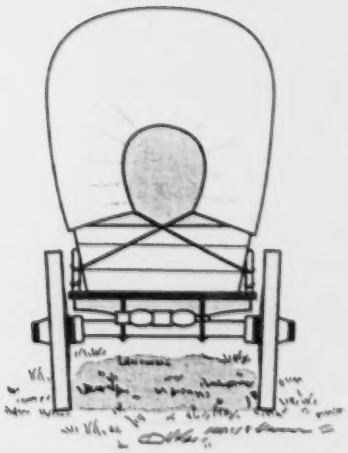
MAP OF MISSOURI

Use the map above to find the number of miles from St. Louis to Independence. Show your work in the box below and write your answer on the line.

_____ miles

3 You see this pattern of large and small arrowheads at the museum. One of the arrowheads is missing.

In the box below, describe the size of the arrowhead that is missing.

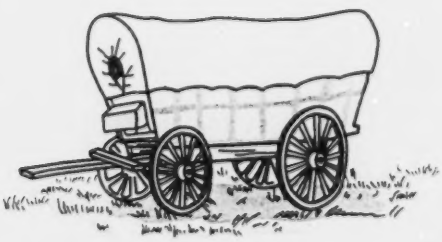


4 At another display you learn that both the Santa Fe Trail and the Oregon Trail started from Independence, Missouri. The Venn diagram below shows the states each trail traveled through.

On the lines below, write the names of two states that ***both*** trails traveled through.

1) _____

2) _____



Directions

The table shows the number of people who visited the museum last summer. Use the table below to do Numbers 5 and 6.

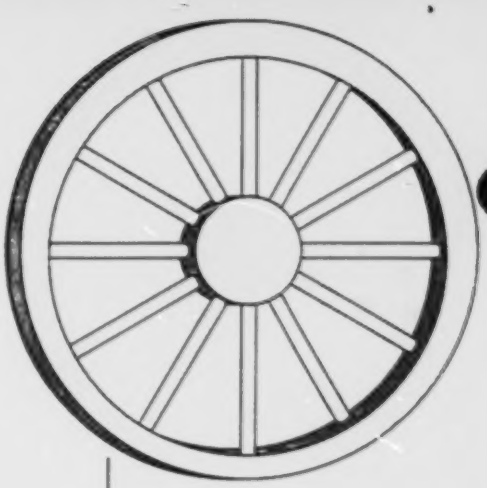
MUSEUM VISITORS

Month	Number of Visitors
May	1,264
June	1,290
July	927
August	875

5 In which month did the museum have the ***greatest*** number of visitors?

_____

6 How many more people visited the museum in the month of May than in the month of August? Show your work in the box below and write your answer on the line.



_____ people

MATH HELPERS

Directions

Numbers 7 through 12 are about your class's new program called Math Helpers. Each Math Helper will help other students with math lessons. Show all of your work and write your answers directly in this booklet.

7 You are chosen to be a Math Helper. Bill was absent on the day the class started learning about fractions. He was puzzled when the teacher wrote $\frac{3}{4}$ on the chalkboard.

$\frac{3}{4}$

In the box above, draw a picture to show Bill the fraction $\frac{3}{4}$. Then explain to Bill ***why*** your picture shows the fraction $\frac{3}{4}$.

8 You and Kip are working on the number pattern below. Write the numbers that will come next in the pattern on the lines below.

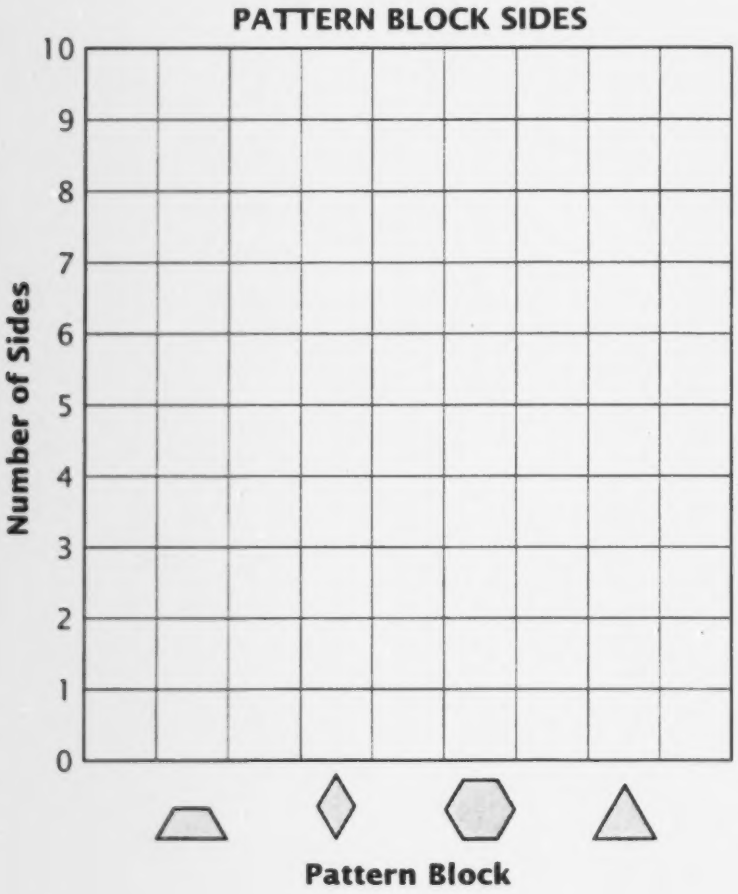
7770 6660 5550 4440 _____ _____

9 Use your pattern blocks to help you solve this problem.

A student asks you for help with angles. In the box below, trace around a pattern block that has exactly 3 angles.

Now trace around a pattern block that has exactly 4 angles.

10 You start the graph below with a group of students. You want to show the number of sides for each pattern block pictured along the bottom of the graph.



Draw bars on the graph to show the number of sides for each pattern block.

11 You help Charlie find the missing numbers in the Input/Output table. Complete the table below.

Input	Output
4	1
7	4
10	7
13	
16	
19	

In the box below, write the rule you used to find each output number.

12 You and Theresa find a pattern in the row of clock faces shown below. Draw hands on the ***two*** blank clocks to complete the pattern.

18

Session 2

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BOOKMARK

Directions

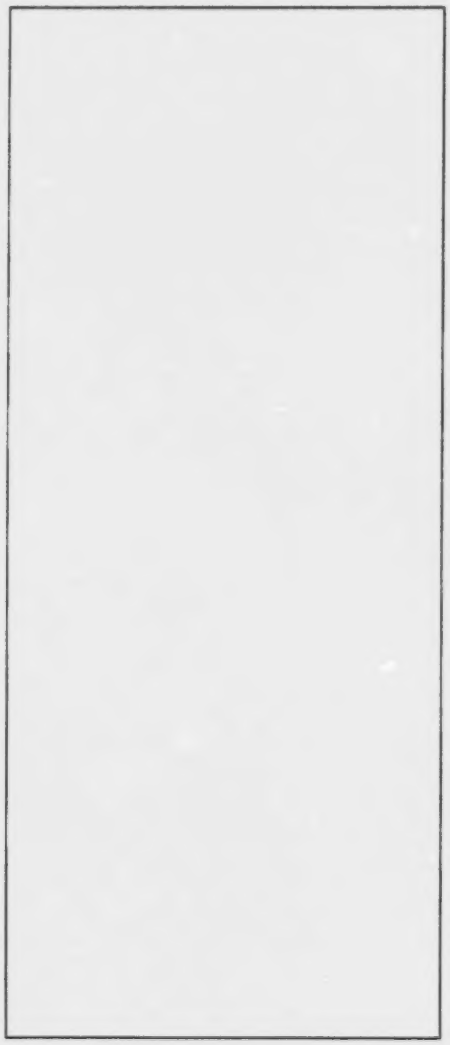
Show all of your work and write your answers directly in this booklet.

1 Use your pattern blocks to help you solve this problem.

It is time for the Math Fair! Each student who visits the geometry display will be given a bookmark. You have been asked to help create a design for the bookmark.

- On the next page, create a symmetrical design on the bookmark by tracing around ***at least*** 3 different pattern block shapes. Each shape may be used more than one time.
- Draw the line of symmetry on your bookmark.

Use this page to create a symmetrical design on your bookmark.



In the box below, explain how you know the design on your bookmark is symmetrical.

AL AND THE ANGELFISH

Directions

Al is learning about angelfish. Numbers 2 through 5 are about angelfish. Show all of your work and write your answers directly in this booklet.

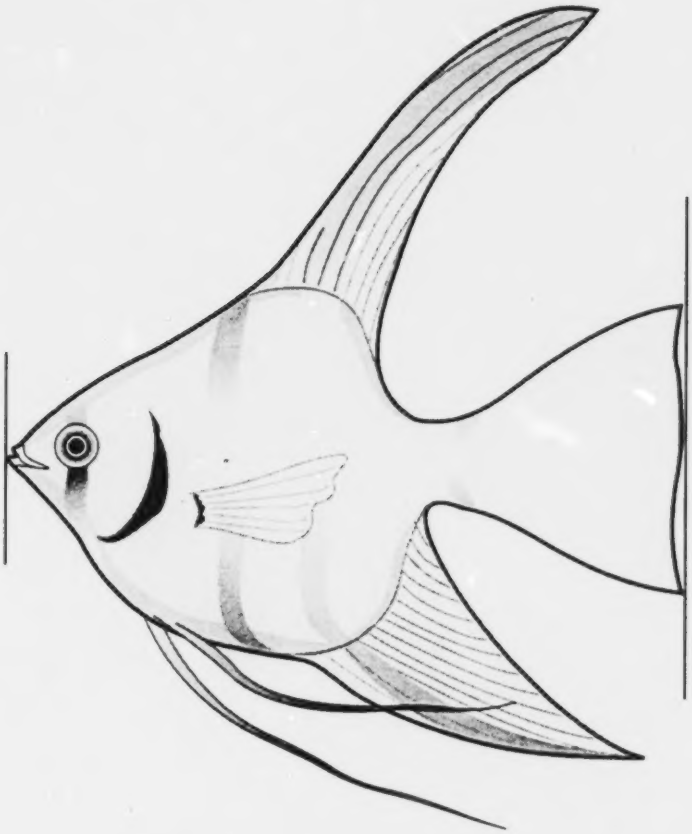
2 Use your coins to help you solve this problem.

Al is saving money to buy angelfish. He has saved 5 quarters, 2 dimes, 4 nickels, and 5 pennies. How much money has Al saved ***in all?*** Show your work in the box below. Write your answer on the line.

$\$$ _____

3 Use the centimeter side of your ruler to help you solve this problem.

Al finds the largest angelfish in the tank at a pet store. Measure the length of the fish below to the nearest centimeter (cm).



How long is the angelfish?

_____ cm

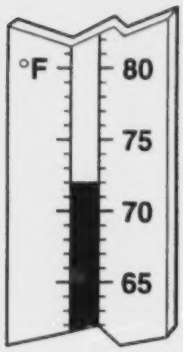
4 A customer at the pet store buys 11 fish. Al notices that 8 of the fish are gold and 3 are black. The customer puts a net in the bag to catch 1 fish.

What is the probability that the customer will catch a black fish in the net?

_____

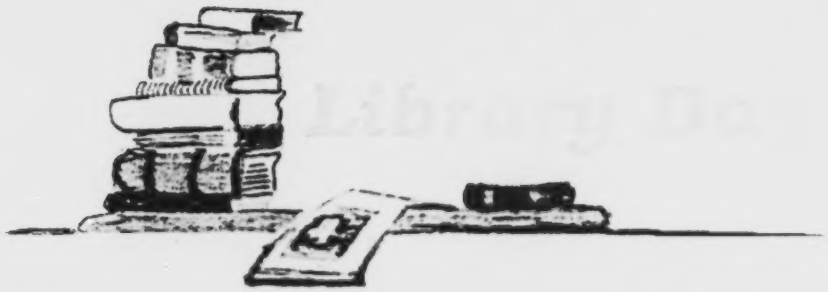
5 Al learned that a safe water temperature for angelfish is between 75° and 86° Fahrenheit (°F).

What is the temperature on the Fahrenheit thermometer shown below? Write your answer on the line.



_____ °F

Explain why the water temperature shown on the thermometer ***is*** or ***is not*** a safe temperature for angelfish.



Directions

Numbers 6 through 9 are about a visit to the school library. Show all of your work and write your answers directly in this booklet.

6 The librarian read three books written by Barbara Cooney to the class. Each student voted once for their favorite story. The results are shown in the tally chart below.

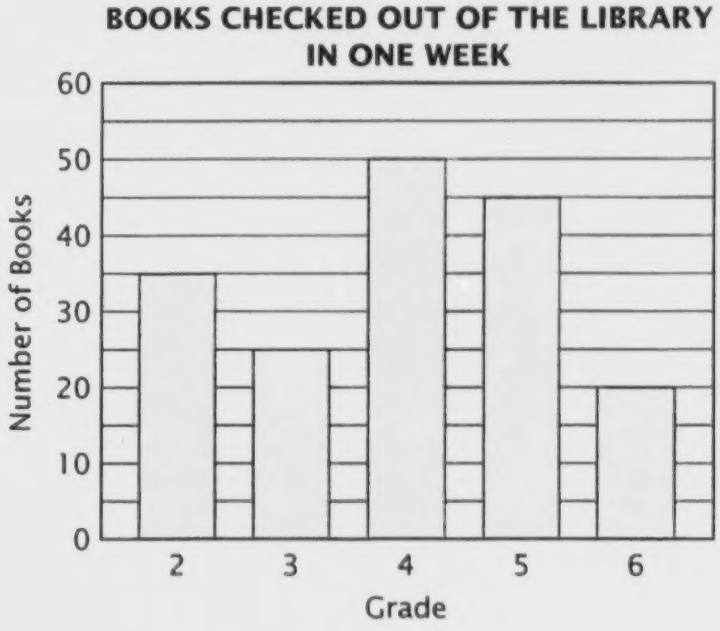
CLASS TALLY CHART

Book	Votes
Island Boy	𝍸 𝍸
Miss Rumphius	𝍸 𝍸 ||
Hattie and the Wild Waves	|||

In the box below, write a mathematics story problem using information from the tally chart. Ask a question at the end of your story problem. Then solve the problem.

Directions

This graph shows the number of books that were checked out of the library in one week by each grade. Study the bar graph below. Then do Numbers 7 and 8.



7 After the graph was made, 15 ***more*** books were checked out by Grade 6 students.

On the graph above, correct the bar to show the total number of books checked out by Grade 6 students.

How many books ***in all*** were checked out by Grade 6 students?

_____ books

8 How many ***more*** books were checked out by students in Grade 5 than by students in Grade 3 ?

_____ books

28

9 For every 8 pages Eli reads, a star is added to his reading chart. Complete the number sentence below to show the number of stars Eli will have after reading 56 pages of his book.

$$8 \times \square = 56$$

In the box below, show how you found your answer.

Scoring Guides

MISSOURI ASSESSMENT PROGRAM
MATHEMATICS SPRING 1998
SCORING GUIDE
GRADE 4

1. Students should not be penalized for omitting the following:

   - degree symbols
   - dollar signs ($) or cent signs (¢)
   - zeros for place holders; for example, either 0.75 or .750 could be used
   - labels for word problems; for example, "miles"

2. Students should not be penalized for:

   - spelling or grammar errors
   - using abbreviations; for example, ft or feet could be used
   - adding extra answer(s) as long as the answer(s) are correct and indicated as answer(s); however, if the extra answer(s) are incorrect, one point will be deducted

3. Students should be given credit for:

   - answers not written on answer line; for example, answer could be given in work space or in explanation

4. Graphs

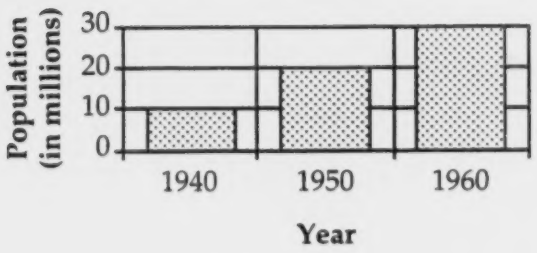
   - The order in which the data in bar and circle graphs are graphed is NOT important.
   - Line graphs are acceptable with or without lines connecting the points.
   - Any width of a bar in a bar graph is acceptable.
   - Students should be given full credit for graphing extra data point(s) as long as the point(s) are reasonable.
   - Students should not be penalized for compressing the interval between 0 and the first increment as long as the other intervals are consistent.
   - Bar graphs can be horizontal or vertical; however, bars must originate at the axis representing the independent variable. (See attached.)

Condition Codes:

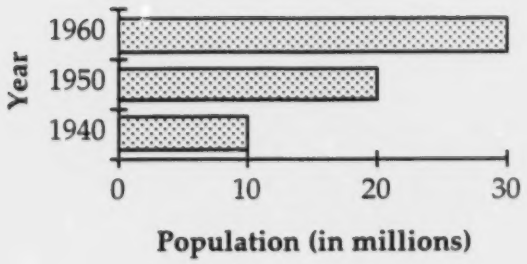
A. No response/refusal
B. Insufficient work to score
C. Off task
D. Illegible
E. Predominantly in another language

MISSOURI ASSESSMENT PROGRAM
MATHEMATICS SPRING 1998
SCORING GUIDE
GRADE 4

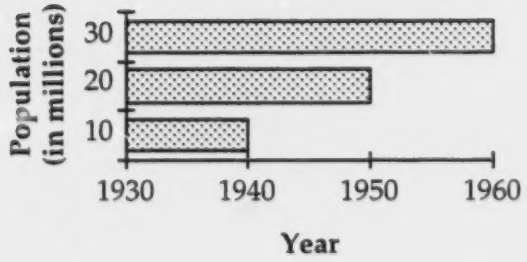
CORRECT



CORRECT



INCORRECT



Session: 1
Item: 1
Page: 2
Content Standard(s): 4 Patterns and Relationships
Process Standard(s): 1.6

Exemplary Response:

Score Points:

2 points	Exemplary Response
1 point	The first two beads in correct order
0 points	Other

Scoring Comments:

Three beads in correct order with extra incorrectly placed beads receives 1 point.

Session: 1
Item: 2
Page: 3
Content Standard(s): 1 Number Sense
Process Standard(s): 1.5

Exemplary Response:

- 22 + 117 + 146

  OR

  A written explanation of processes (ex: "Travel from St. Louis to Independence, and then add up the miles.")

AND

- 285 (miles)

Score Points:

2 points	Exemplary Response
1 point	One component
	OR
	Correct process with only one minor transcription error
0 points	Other

Scoring Comments:

Addition sign is not necessary for credit if answer is correct.

34

Session: 1
Item: 3
Page: 4
Content Standard(s): 4 Patterns and Relationships
Process Standard(s): 1.6

Exemplary Response:

- small or little or short

  OR

  Other valid response

Score Points:

1 point	Exemplary Response
0 points	Other

Scoring Comments:

Credit is given for responses such as "one inch," "2 to $2\frac{1}{2}$ (cm) " or an accurate drawing of the missing arrowhead.

Session: 1
Item: 4
Page: 5
Content Standard(s): 6 Discrete Mathematics
Process Standard(s): 1.5

Exemplary Response:

- Any TWO of the following or all three:

  Missouri
  Kansas
  Colorado

Score Points:

2 points	Exemplary Response (two components)
1 point	One component
0 points	Other

Session: 1
Item: 5
Page: 6
Content Standard(s): 3 Data Analysis, Probability, and Statistics
Process Standard(s): 1.5

Exemplary Response:

- June or 1,290

Score Points:

1 point	Exemplary Response
0 points	Other

Session: 1
Item: 6
Page: 7
Content Standard(s): 3 Data Analysis, Probability, and Statistics
Process Standard(s): 1.6

Exemplary Response:

- 1264
  −875

AND

- 389 (people)

Score Points:

2 points	Exemplary Response
1 point	One component OR Correct solution for a subtraction problem using the correct months with a transcription error
0 points	Other

Scoring Comments:

Minus sign must be included for 1-point credit if only number equation is present with no solution.

Session: 1
Item: 7
Page: 8
Content Standard(s): 5 Mathematical Systems and Number Theory
Process Standard(s): 2.1

Exemplary Response:

- Drawing to show $\frac{3}{4}$

AND

- Explanation equivalent to the following:

  It means 3 out of 4. (Like when you have pizza and it's cut into 4 parts, and 3 of the pieces are gone.)

  OR

  Other valid explanation

Score Points:

2 points	Exemplary Response
1 point	One component
0 points	Other

Scoring Comments:

Credit will be given for explanation such as "if it had another quarter it would be $\frac{4}{4}$ " or "$\frac{3}{4}$ is shaded in drawing."

If student gives an explanation only, without a drawing, then the explanation must indicate equal parts.

If a fairly accurate drawing is given, it is assumed that the parts are equal.

Session: 1
Item: 8
Page: 9
Content Standard(s): 4 Patterns and Relationships
Process Standard(s): 1.6

Exemplary Response:

- 3330

AND

- 2220

Note: Numbers must be in the order shown.

Score Points:

1 point	Exemplary Response
0 points	Other

Session: 1
Item: 9
Page: 10
Content Standard(s): 2 Geometric/Spatial Sense and Measurement
Process Standard(s): 1.10

Exemplary Response:

-

AND

- Any ONE of the following:

Score Points:

2 points	Exemplary Response
1 point	One component
0 points	Other

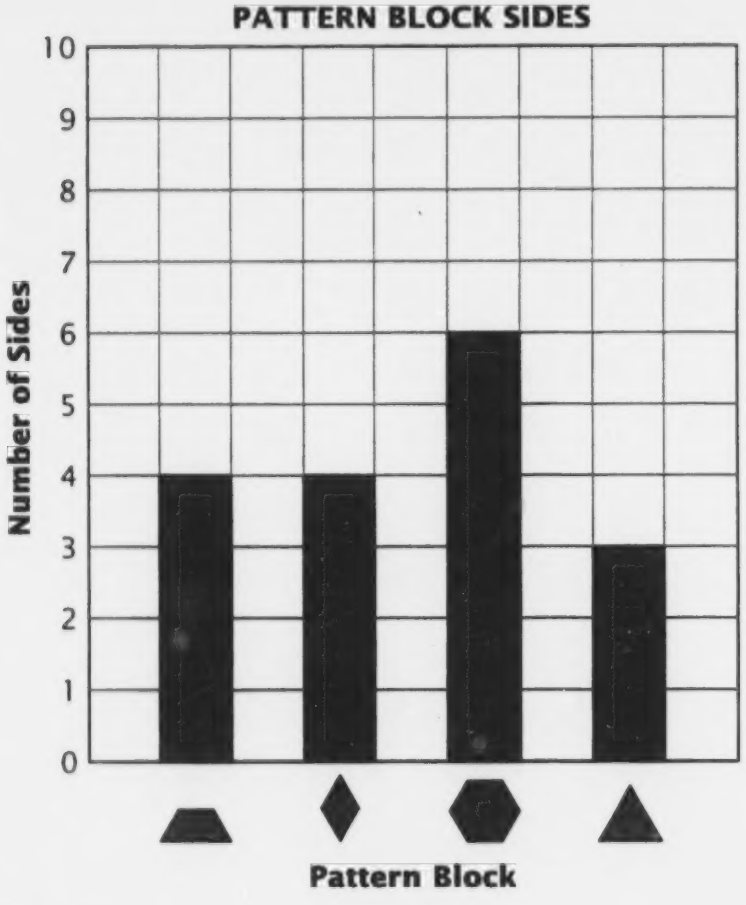
Scoring Comments:

Shapes can be drawn correctly or traced.

Session: 1
Item: 10
Page: 11
Content Standard(s): 3 Data Analysis, Probability, and Statistics
Process Standard(s): 1.8

Exemplary Response:

•



Score Points:

3 points	Exemplary Response (four components)
2 points	Two or three components
1 point	One component
0 points	Other

42

Session: 1
Item: 10
Page: 11
Content Standard(s): 3 Data Analysis, Probability, and Statistics
Process Standard(s): 1.8

Scoring Comments:

Vertical lines acceptable.

No credit is given for dot, line, or shape drawn at the right level.

Session: 1
Item: 11
Page: 12
Content Standard(s): 4 Patterns and Relationships
Process Standard(s): 1.6

Exemplary Response:

•

Input	Output
4	1
7	4
10	7
13	10
16	13
19	16

AND

- Rule equivalent to the following:

  Subtract 3

  OR

  Other valid rule

Score Points:

2 points	Exemplary Response
1 point	One component
0 points	Other

44

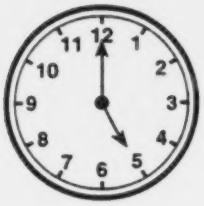
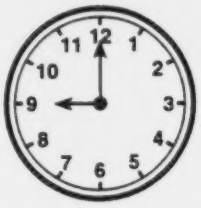
Session: 1
Item: 11
Page: 12
Content Standard(s): 4 Patterns and Relationships
Process Standard(s): 1.6

Scoring Comments:

Full credit given for "skip counting" or "counting by 3's" or "add 3" with correct pattern shown.

Session: 1
Item: 12
Page: 13
Content Standard(s): 4 Patterns and Relationships
Process Standard(s): 1.6

Exemplary Response:

-  AND 

Score Points:

2 points	Exemplary Response (two components)
1 point	One component
0 points	Other

Scoring Comments:

Length of hands on clock faces not important in scoring this item.

Another possible pattern is 4 o'clock and 11 o'clock, but student must include both for 2 points. Neither 4 o'clock nor 11 o'clock by itself is acceptable for any credit.

Item 13
Not Released

Session: 2
Item: 1
Page: 18–20
Content Standard(s): 2 Geometric/Spatial Sense and Measurement
Process Standard(s): 1.4 and 4.1

Score Points:

4 points — The student's response fully addresses the performance event.

The response:

- demonstrates knowledge of the mathematical concepts and principles needed to complete the event.
- communicates all process components that lead to an appropriate and systematic solution.
- may have only minor flaws with no effect on the reasonableness of the solution.

3 points — The student's response substantially addresses the performance event.

The response:

- demonstrates knowledge of the mathematical concepts and principles needed to complete the event.
- communicates most process components that lead to an appropriate and systematic solution.
- may have only minor flaws with minimal effect on the reasonableness of the solution.

2 points — The student's response partially addresses the performance event.

The response:

- demonstrates a limited knowledge of the mathematical concepts and principles needed to complete the event.
- communicates some process components that lead to an appropriate and systematic solution.
- may have flaws or extraneous information that indicates some lack of understanding or confusion.

Session: 2
Item: 1
Page: 18–20
Content Standard(s): 2 Geometric/Spatial Sense and Measurement
Process Standard(s): 1.4 and 4.1

1 point

The student's response minimally addresses the performance event.

The response:

- demonstrates a limited knowledge of the mathematical concepts and principles needed to complete the event.
- communicates few or no process components that lead to an appropriate and systematic solution.
- may have flaws or extraneous information that indicates lack of understanding or confusion.

0 points

Other—Responses not addressed by the Condition Codes:

Examples of "0":

Work consists of copying the prompt information only.
Work indicates no mathematical understanding of the task.

Session: 2
Item: 1
Page: 18–20
Content Standard(s): 2 Geometric/Spatial Sense and Measurement
Process Standard(s): 1.4 and 4.1

Sample Solution:

Design using at least three different pattern block shapes drawn on the bookmark in a symmetrical design.

Line of symmetry drawn correctly.

Explanation of symmetry equivalent to the following:

If you fold the bookmark on the line of symmetry, the sides match exactly.

Scoring Comments:

Although the line of symmetry may not be exactly in the center of a bookmark, this is acceptable for 4th grade.

Design of three shapes should appear to be symmetrical.

Extra artistic design or use of words on bookmark does not affect symmetrical design.

A circle is an acceptable shape.

Session: 2
Item: 2
Page: 21
Content Standard(s): 1 Number Sense
Process Standard(s): 3.3

Exemplary Response:

- .25 + .25 + .25 + .25 +.25 + .10 + .10 + .05 + .05 + .05 + .05 + .01 + .01 + .01 + .01 + .01

  OR

  1.25 + .20 + .20 + .05

  OR

  Other valid process

AND

- $1.70 or 170¢ or 1.70

Score Points:

2 points	Exemplary Response
1 point	One component
0 points	Other

Scoring Comments:

1 point credit given for coins drawn with values shown.

Student must use decimal point or ¢ sign in final answer.

Session: 2
Item: 3
Page: 22
Content Standard(s): 2 Geometric/Spatial Sense and Measurement
Process Standard(s): 1.4

Exemplary Response:

- 10 (cm)

Score Points:

1 point	Exemplary Response
0 points	Other

Session: 2
Item: 4
Page: 23
Content Standard(s): 3 Data Analysis, Probability, and Statistics
Process Standard(s): 3.5

Exemplary Response:

- $\frac{3}{11}$ or 3 out of 11

  OR

  Other equivalent probability

Score Points:

1 point	Exemplary Response
0 points	Other

Session: 2
Item: 5
Page: 24
Content Standard(s): 2 Geometric/Spatial Sense and Measurement
Process Standard(s): 4.1

Exemplary Response:

- 72 (°F)

AND

- Explanation equivalent to the following:

  (No, because) 72°F is less than 75°F (so the temperature is too low)

  OR

  Other valid explanation

Note: **No** or **not safe** is not necessary if comparison is given. Credit is not given for **No** or **not safe** only.

Score Points:

2 points	Exemplary Response
1 point	One component
0 points	Other

Session: 2
Item: 6
Page: 25
Content Standard(s): 3 Data Analysis, Probability, and Statistics
Process Standard(s): 3.1

Exemplary Response:

Accept any mathematics story problem that

- uses correct information taken from the tally chart

AND

- asks a question

AND

- correctly solves the story problem

Score Points:

3 points	Exemplary Response (three components)
2 points	Two components
1 point	One component
0 points	Other

Scoring Comments:

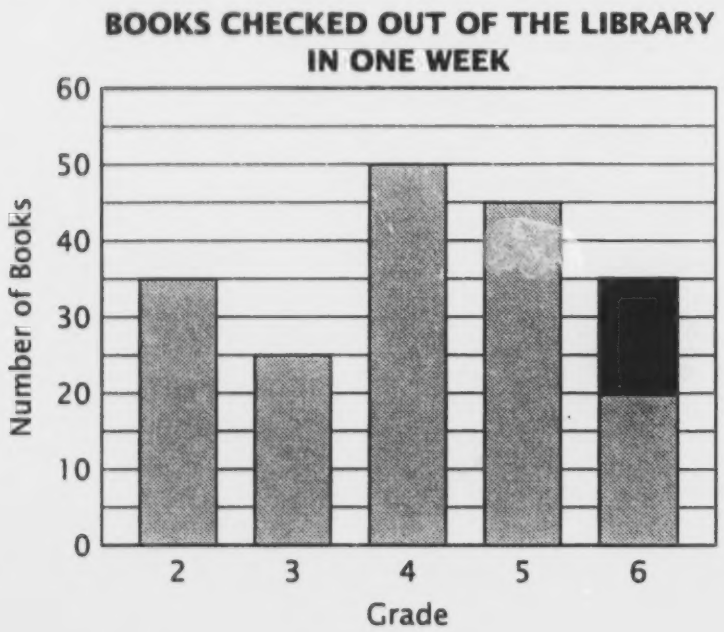
Credit for 3 points must include a statement in words that includes a setup for the question and a question with the correct answer to it.

Credit for 1 point given for solutions such as "Miss Rumphius won," "Hattie & the Wild Waves got the least," or any solution that takes into account all information from the tally chart.

Session: 2
Item: 7
Page: 26
Content Standard(s): 3 Data Analysis, Probability, and Statistics
Process Standard(s): 1.8

Exemplary Response:

- Bar drawn to show 35 books for Grade 6



AND

- 35 (books)

Session: 2
Item: 7
Page: 26
Content Standard(s): 3 Data Analysis, Probability, and Statistics
Process Standard(s): 1.8

Score Points:

2 points	Exemplary Response (two components)
1 point	One component OR Bar is drawn to reflect the number of books in answer (other than 35)
0 points	Other

Session: 2
Item: 8
Page: 26
Content Standard(s): 3 Data Analysis, Probability, and Statistics
Process Standard(s): 1.6

Exemplary Response:

- 20 (books)

Score Points:

1 point	Exemplary Response
0 points	Other

Session: 2
Item: 9
Page: 27
Content Standard(s): 4 Patterns and Relationships
Process Standard(s): 1.10

Exemplary Response:

- 7

AND

- Work or explanation equivalent to the following:

Number of Pages	Number of Stars
8	1
16	2
24	3
32	4
40	5
48	6
56	7

OR

$56 \div 8$

OR

Other valid response

Score Points:

2 points	Exemplary Response
1 point	One component
0 points	Other

Session: 2
Item: 9
Page: 27
Content Standard(s): 4 Patterns and Relationships
Process Standard(s): 1.10

Scoring Comments:

Credit is given for "8 + 8 + 8 + 8 + 8 + 8 + 8."

Anchor Papers

61

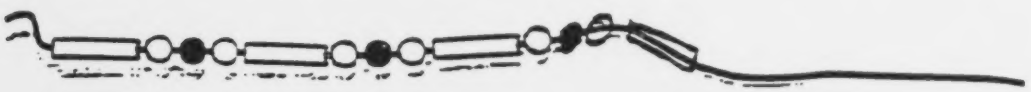
Missouri History Day

SCORE 2

Directions

Numbers 1 through 7 are about Missouri History Day. You and your classmates will go to a museum to be a part of the celebration. Show all of your work and write your answers directly in this booklet.

At the first display you see Native American beads. Look at the pattern of the beads. Draw the next 3 beads in the pattern on the string.



All three beads in correct order

Exemplary Response

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Session 6f

1

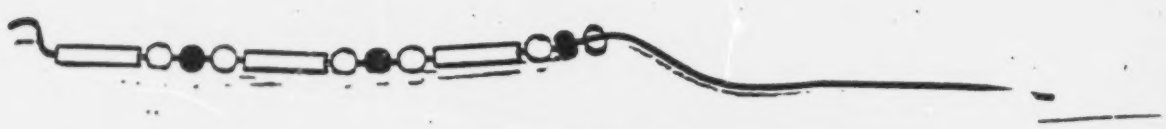
Missouri History Day

SCORE 1

Directions

Numbers 1 through 7 are about Missouri History Day. You and your classmates will go to a museum to be a part of the celebration. Show all of your work and write your answers directly in this booklet.

1. At the first display you see Native American beads. Look at the pattern of the beads. Draw the next 3 beads in the pattern on the string.



The first two beads in correct order

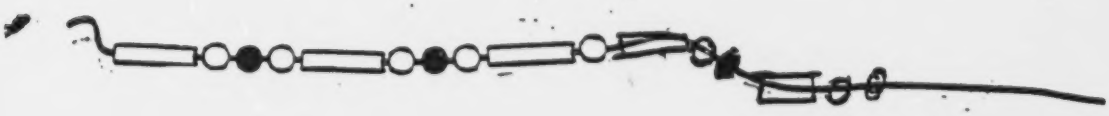
SCORE 0

Missouri History Day

Directions

Numbers 1 through 7 are about Missouri History Day. You and your classmates will go to a museum to be a part of the celebration. Show all of your work and write your answers directly in this booklet.

1 At the first display you see Native American beads. Look at the pattern of the beads. Draw the next 3 beads in the pattern on the string.



Beads incorrectly ordered

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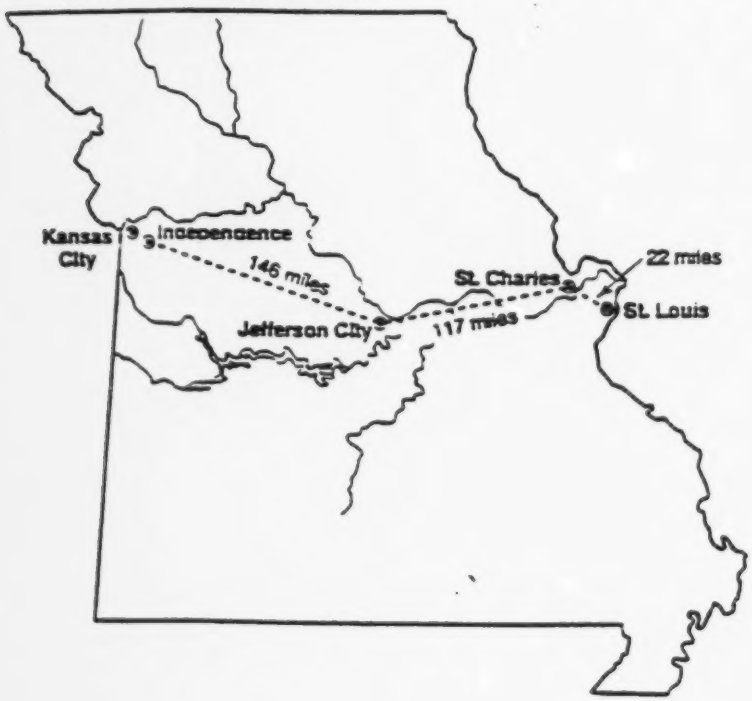
2 The next display shows a map of some cities in Missouri.

SCORE 2

MAP OF MISSOURI



Use the map above to find the number of miles from St. Louis to Independence. Show your work in the box below and write your answer on the line.

$$\begin{array}{r} {}^{1}\,146 \text{ miles} \\ +\ 117 \\ \hline 285 \text{ miles} \end{array}$$

Correct process (146 + 117 + 22)

Correct answer (285 miles)

285 miles

Exemplary Response

4

SCORE 1

2. The next display shows a map of some cities in Missouri.

MAP OF MISSOURI

Use the map above to find the number of miles from St. Louis to Independence. Show your work in the box below and write your answer on the line.

$$\begin{array}{r} {}^{1}\,{}^{1} \\ 146 \\ +\ 1{}^{2}7{}^{2}2 \\ \hline 305 \end{array}$$

305

Correct process (146 + 22 + 117)

305 miles

BEST COPY AVAILABLE

Error in computation wrong answer (305 miles)

One Component

5

Score 1

2 The next display shows a map of some cities in Missouri.

MAP OF MISSOURI

Use the map above to find the number of miles from St. Louis to Independence. Show your work in the box below and write your answer on the line.

22 miles
177 miles
+ 146 miles
345 miles

345 miles

Student shows correct process and correctly totals mileage—with one minor transcription error (177 should be 117)

6

105810 67

2 The next display shows a map of some cities in Missouri.

SCORE 0

MAP OF MISSOURI

Use the map above to find the number of miles from St. Louis to Independence. Show your work in the box below and write your answer on the line.

$$\begin{array}{r} {\scriptstyle 1} \\ 117 \\ +146 \\ \hline 263 \end{array}$$

Incorrect process (117 + 146)

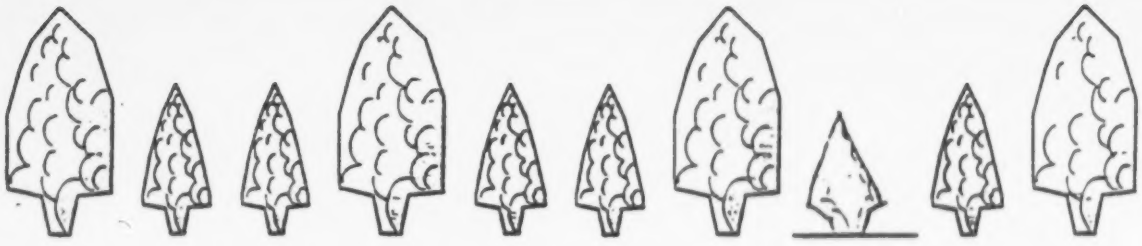
263 miles

Incorrect answer (263 miles)

BEST COPY AVAILABLE

SCORE 1

3 You see this pattern of large and small arrowheads at the museum. One of the arrowheads is missing.

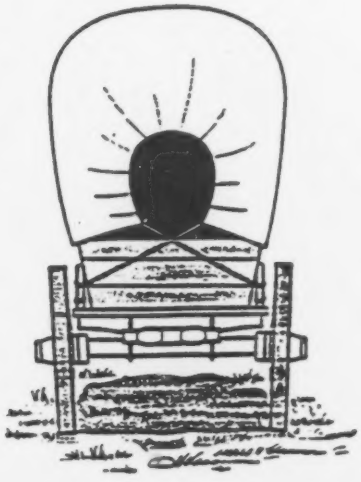


In the box below, describe the size of the arrowhead that is missing.

The size is small.

Correct drawing

Small OR little OR short (The size is small)



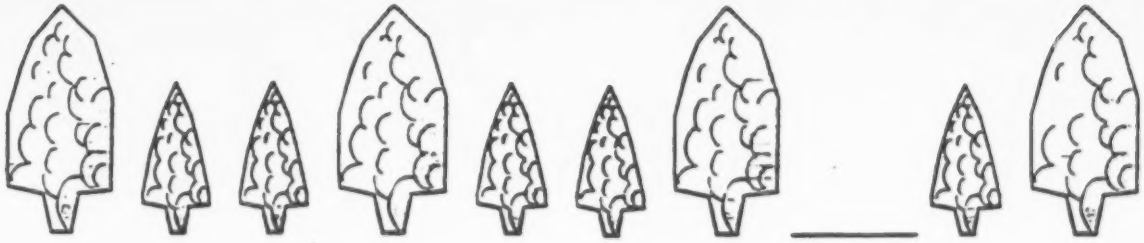
69

Exemplary Response

8

SCORE 0

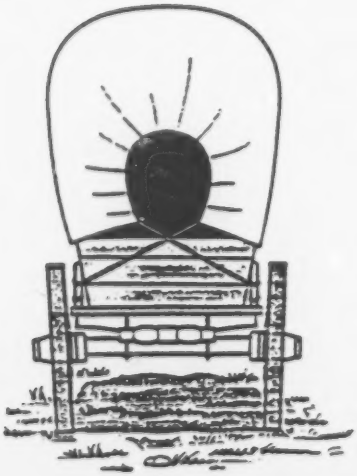
3 You see this pattern of large and small arrowheads at the museum. One of the arrowheads is missing.



In the box below, describe the size of the arrowhead that is missing.

another larger one, like

Inaccurate drawing
Incorrectly chooses large arrowhead



70

9

SCORE 2

4 At another display you learn that both the Santa Fe Trail and the Oregon Trail started from Independence, Missouri. The Venn diagram below shows the states each trail traveled through.

On the lines below, write the names of two states that *both* trails traveled through.

1) Missouri

2) Colorado

Correctly chooses two components (Missouri and Colorado)

Exemplary Response

10

SCORE 1

4 At another display you learn that both the Santa Fe Trail and the Oregon Trail started from Independence, Missouri. The Venn diagram below shows the states each trail traveled through.

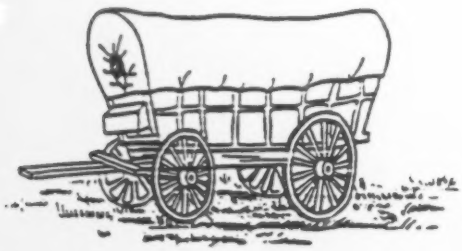
On the lines below, write the names of two states that ***both*** trails traveled through.

One correct component (Missouri)

1) Missouri

One incorrect component (Idaho)

2) Idaho



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11

SCORE 0

4 At another display you learn that both the Santa Fe Trail and the Oregon Trail started from Independence, Missouri. The Venn diagram below shows the states each trail traveled through.

On the lines below, write the names of two states that ***both*** trails traveled through.

1) Texas

2) Iowa

Incorrect answers (Texas and Iowa)

7.3

12

SCORE 1

Directions

Use the table below to do Numbers 6 and 7.

5 The table shows the number of people who visited the museum last summer.

MUSEUM VISITORS

Month	Number of Visitors
May	1,264
June	1,290
July	927
August	875

In which month did the museum have the *greatest* number of visitors?

June

Correct month (June)

Exemplary Response

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SCORE 0

Directions

Use the table below to do Numbers 6 and 7.

5 The table shows the number of people who visited the museum last summer.

MUSEUM VISITORS

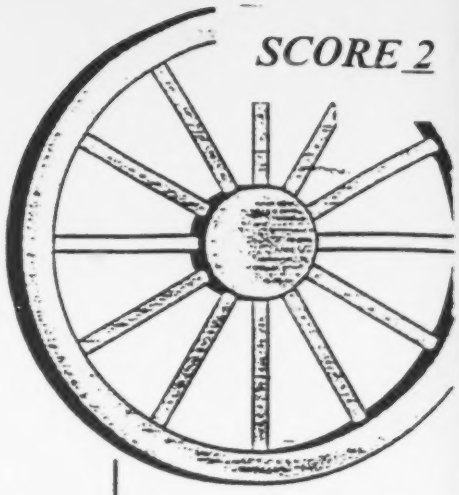
Month	Number of Visitors
May	1,264
June	1,290
July	927
August	875

In which month did the museum have the *greatest* number of visitors?

May

Incorrect answer (May)

SCORE 2



6 How many more people visited the museum in the month of May than in the month of August? Show your work in the box below and write your answer on the line.

$$\begin{array}{r} {}^{1}\cancel{1}\,{}^{1}\cancel{2}\,{}^{1}\cancel{6}\,{}^{1}\cancel{4} \\ -\;\;8\;7\;5 \\ \hline 3\;8\;9 \end{array}$$

Correct process (1264 - 875)

$$\begin{array}{r} {}^{1}\;{}^{1} \\ 8\;7\;5 \\ +\;3\;8\;4 \\ \hline 1,2\;6\;4 \end{array}$$

389 people

Correct answer (389)

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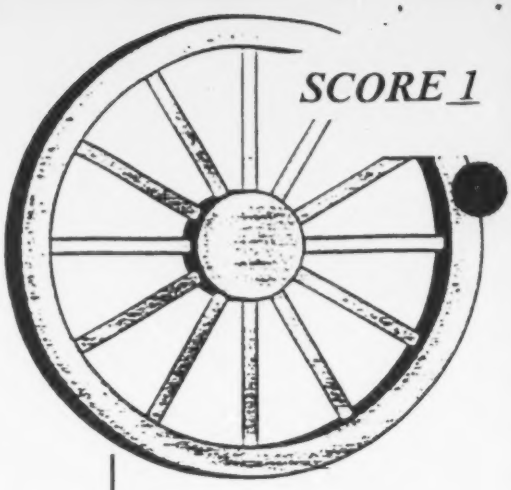
Exemplary Response



SCORE 1

6 How many more people visited the museum in the month of May than in the month of August? Show your work in the box below and write your answer on the line.

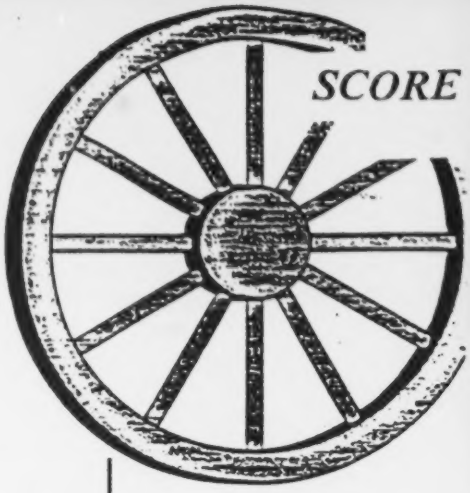
0 11 15
+ 2 6 14
− 8 7 5
3 5 9

Correct process (1264 - 875)

359 people

Incorrect answer (359)

One Component



6 How many more people visited the museum in the month of May than in the month of August? Show your work in the box below and write your answer on the line.

mary 1,264
august 825

1,264
− 825
439

Student shows correct process and accurate subtraction using correct month, with one minor transcription error

439 people

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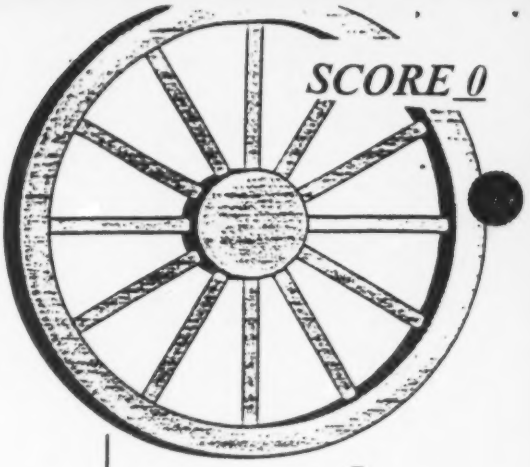
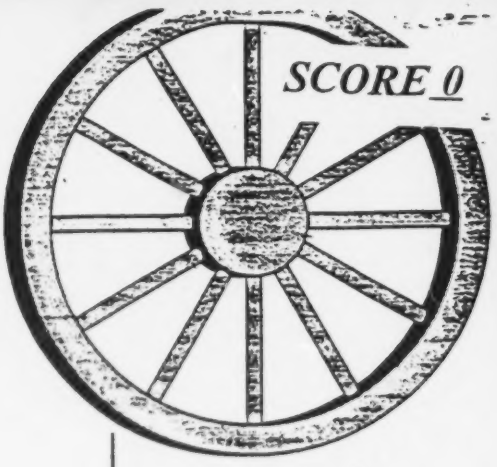


6 How many more people visited the museum in the month of May than in the month of August? Show your work in the box below and write your answer on the line.

May 0 8 2 5 4
August - 9 2 7
3 3 7

Student identifies correct months with incorrect data which leads to an incorrect answer

337 people



6 How many more people visited the museum in the month of May than in the month of August? Show your work in the box below and write your answer on the line.

$$\begin{array}{r} {}^{1}\,{}^{1}\,{}^{1} \\ 1,264 \\ +\ 875 \\ \hline 2,139 \end{array}$$

Incorrect process

2,139 people

SCORE 2

MATH HELPERS

Directions

Numbers 8 through 13 are about your class's new program called Math Helpers. Each Math Helper will help other students with math lessons. Show all of your work and write your answers directly in this booklet.

7 You are chosen to be a Math Helper. Bill was absent on the day the class started learning about fractions. He was puzzled when the teacher wrote $\frac{3}{4}$ on the chalkboard.

$\frac{3}{4}$

There were 4 pizza, 3 of the pizza got eaten.

Drawing illustrates 3/4
Acceptable explanation ("There were 4 pizza (pieces), 3 of the pizza got eaten")

In the box above, draw a picture to show Bill the fraction $\frac{3}{4}$. Then explain to Bill *why* your picture shows the fraction $\frac{3}{4}$.

Exemplary Response 3 1

20

SCORE 1

MATH HELPERS

Directions

Numbers 8 through 13 are about your class's new program called Math Helpers. Each Math Helper will help other students with math lessons. Show all of your work and write your answers directly in this booklet.

7 You are chosen to be a Math Helper. Bill was absent on the day the class started learning about fractions. He was puzzled when the teacher wrote $\frac{3}{4}$ on the chalkboard.

One Component

Drawing illustrates 3/4

Incorrect explanation ("It is 1 half because if you have a pizza you have 4 pieces, and if you (divided) it into 3 you have a half")

$\frac{3}{4}$ 1 half

It is 1 half becouse if you have a pizza you have 4 picese, and you difued it in to 3 you have a half.

In the box above, draw a picture to show Bill the fraction $\frac{3}{4}$. Then explain to Bill *why* your picture shows the fraction $\frac{3}{4}$.

82

SCORE 0

MATH HELPERS

Directions

Numbers 8 through 13 are about your class's new program called Math Helpers. Each Math Helper will help other students with math lessons. Show all of your work and write your answers directly in this booklet.

7 You are chosen to be a Math Helper. Bill was absent on the day the class started learning about fractions. He was puzzled when the teacher wrote $\frac{3}{4}$ on the chalkboard.

No drawing
Incorrect explanation
("You would just do 3/4 then you would add it")

$\frac{3}{4}$

you would just do $\frac{3}{4}$ then you would add it $\frac{3}{4}$

In the box above, draw a picture to show Bill the fraction $\frac{3}{4}$. Then explain to Bill *why* your picture shows the fraction $\frac{3}{4}$.

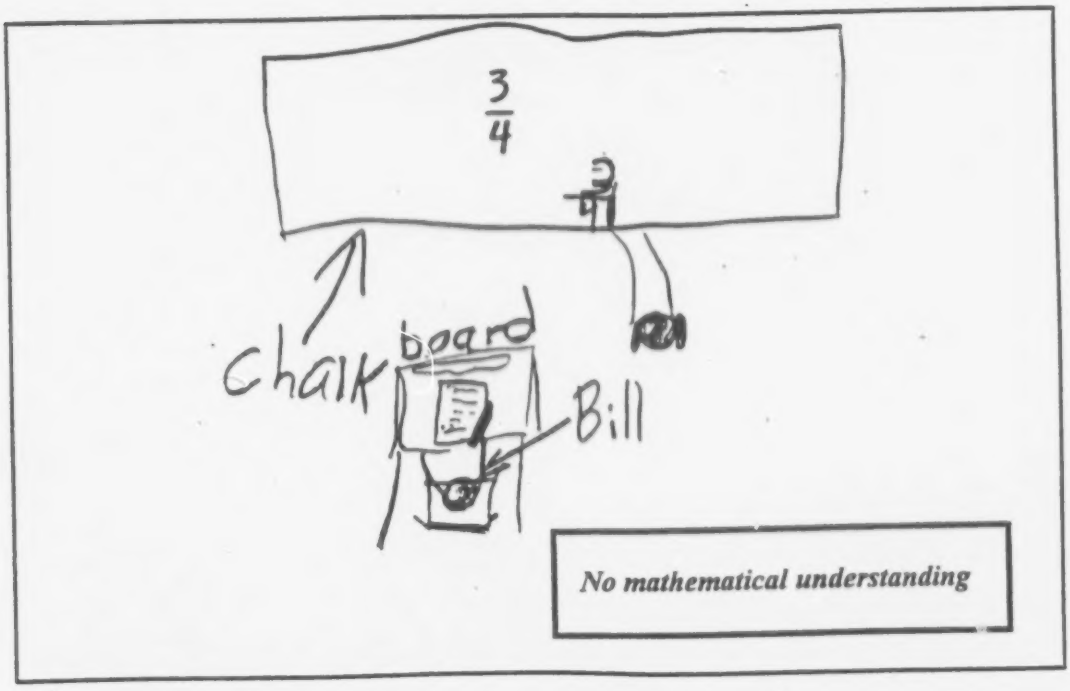
SCORE 0

MATH HELPERS

Directions

Numbers 8 through 13 are about your class's new program called Math Helpers. Each Math Helper will help other students with math lessons. Show all of your work and write your answers directly in this booklet.

7 You are chosen to be a Math Helper. Bill was absent on the day the class started learning about fractions. He was puzzled when the teacher wrote $\frac{3}{4}$ on the chalkboard.



No mathematical understanding

In the box above, draw a picture to show Bill the fraction $\frac{3}{4}$. Then explain to Bill *why* your picture shows the fraction $\frac{3}{4}$.

82 84

111883

SCORE 1

8 Lee Ann and Kip are working on the number pattern below. Write the numbers that will come next in the pattern on the lines below.

7770 6660 5550 4440 3330 2220

Correct answer (3330 & 2220)

Exemplary Response

Session 1

SCORE 0

8 Lee Ann and Kip are working on the number pattern below. Write the numbers that will come next in the pattern on the lines below.

7770 6660 5550 4440 ~~8880~~ 9990

Incorrect response (8880 & 9990)

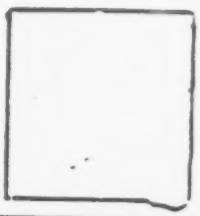
SCORE 2

9 Use your pattern blocks to help you solve this problem.

A student asks you for help with angles. In the box below, trace around a pattern block that has exactly 3 angles.

Correctly draws triangle

Now trace around a pattern block that has exactly 4 angles.



Correctly chooses pattern block with four angles

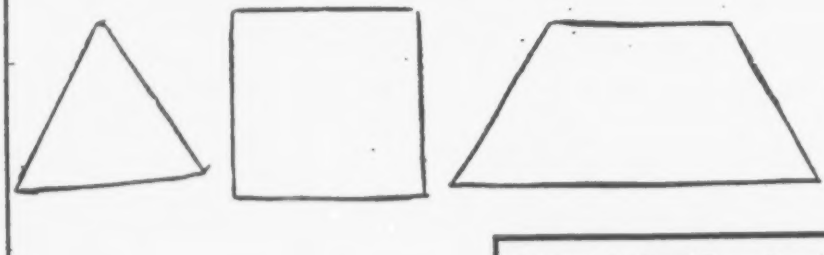
Exemplary Response

26

Session 1 87

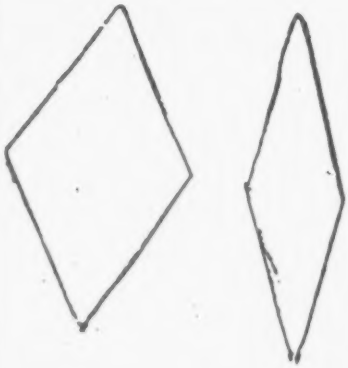
9 Use your pattern blocks to help you solve this problem. ***SCORE 1***

A student asks you for help with angles. In the box below, trace around a pattern block that has exactly 3 angles.



Although identifies triangle, student also identifies wrong pattern blocks (square and trapezoid)

Now trace around a pattern block that has exactly 4 angles.



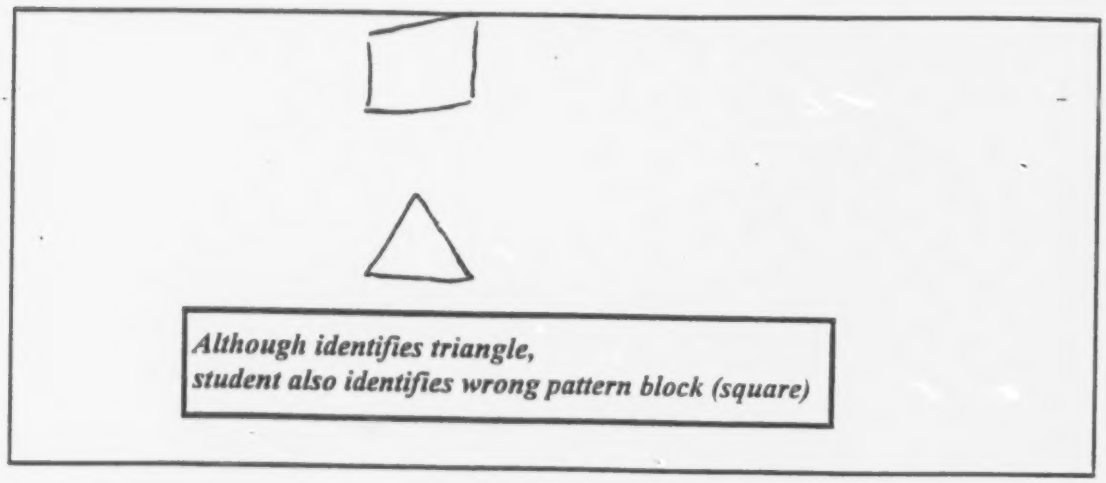
Correctly identifies pattern blocks with four angles (diamond and parallelogram)

One Component

SCORE 0

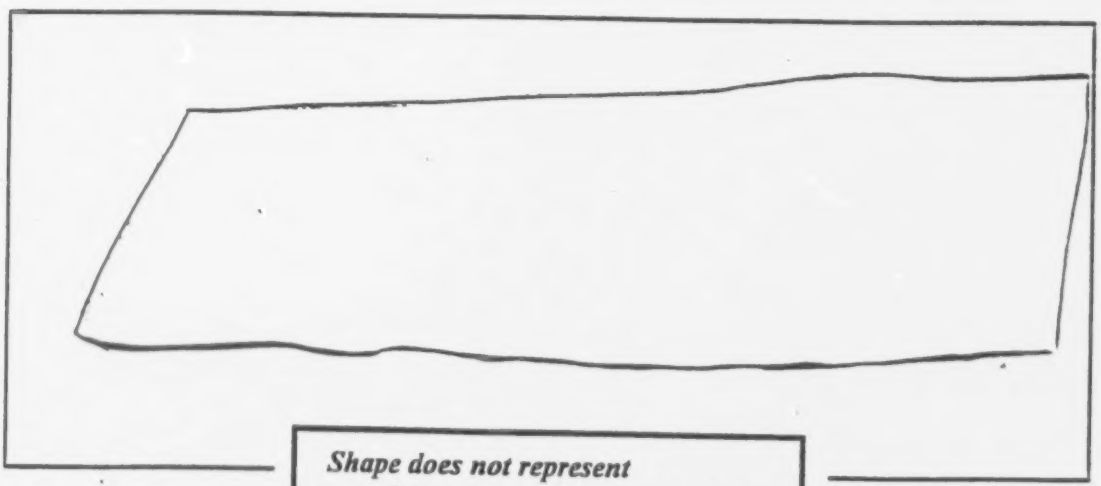
9 Use your pattern blocks to help you solve this problem.

A student asks you for help with angles. In the box below, trace around a pattern block that has exactly 3 angles.



Although identifies triangle, student also identifies wrong pattern block (square)

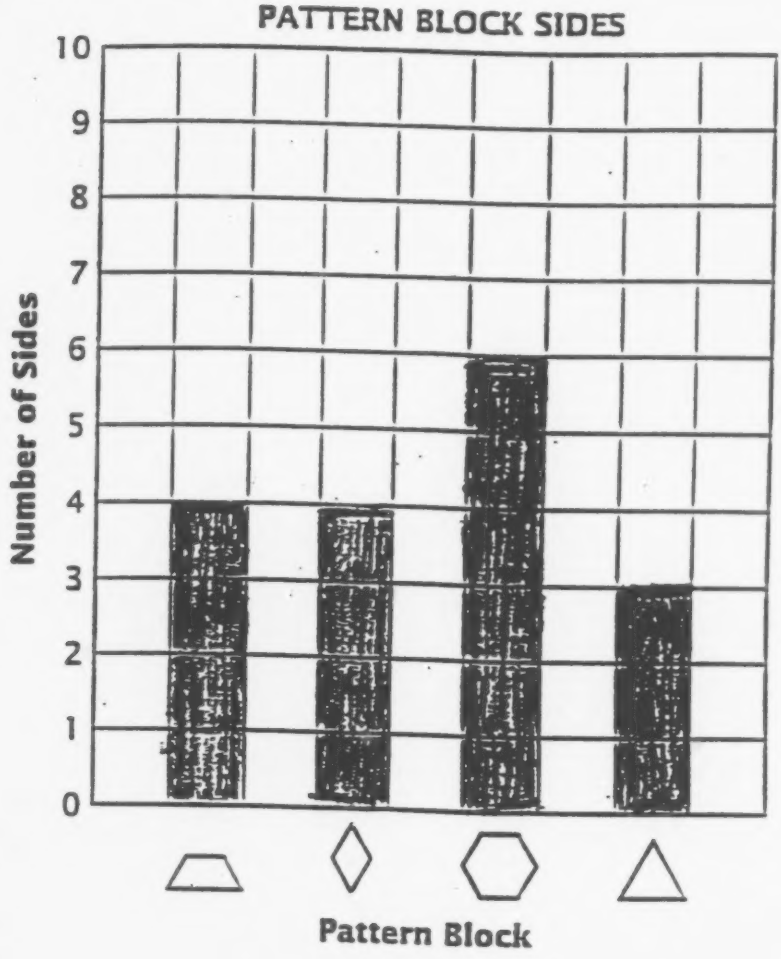
Now trace around a pattern block that has exactly 4 angles.



Shape does not represent one of the pattern block manipulatives with 4 angles

SCORE 3

10 You start the graph below with a group of students. You want to show the number of sides for each pattern block pictured along the bottom of the graph.



Draw bars on the graph to show the number of sides for each pattern block.

Four bars drawn correctly on graph represent number of sides for each pattern block

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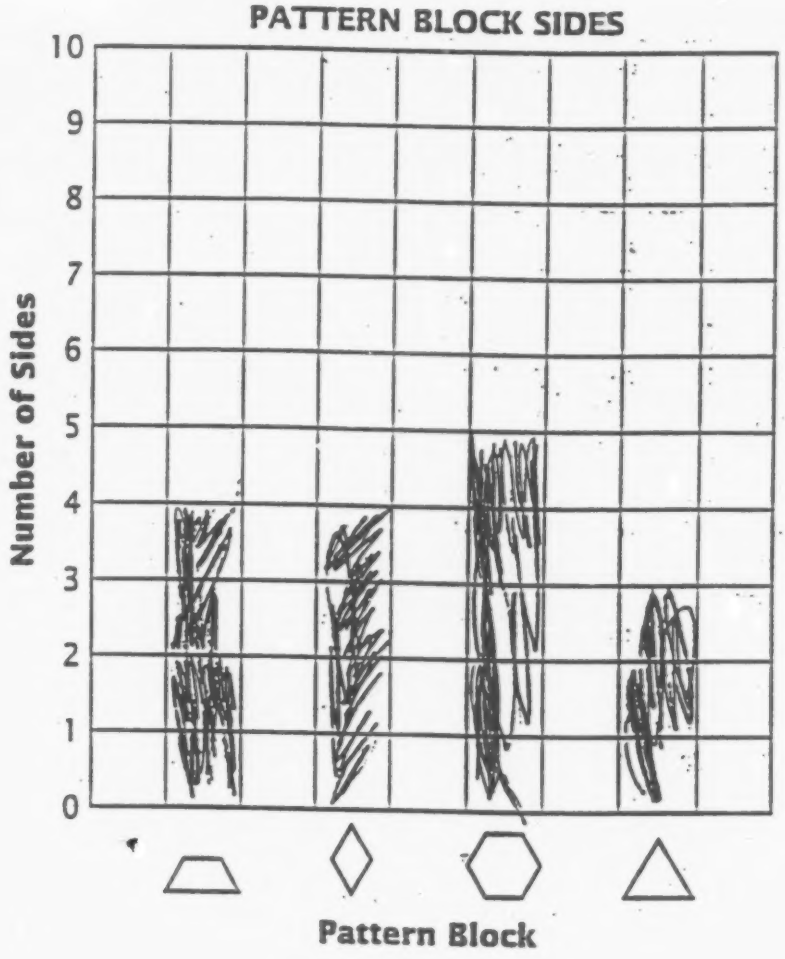
Exemplary Response (four components)

29

SCORE 2

10 You start the graph below with a group of students. You want to show the number of sides for each pattern block pictured along the bottom of the graph.



Draw bars on the graph to show the number of sides for each pattern block.

Three bars drawn correctly on the graph to represent the number of side for three pattern blocks

Incorrectly drawn bar graph representing the hexagon

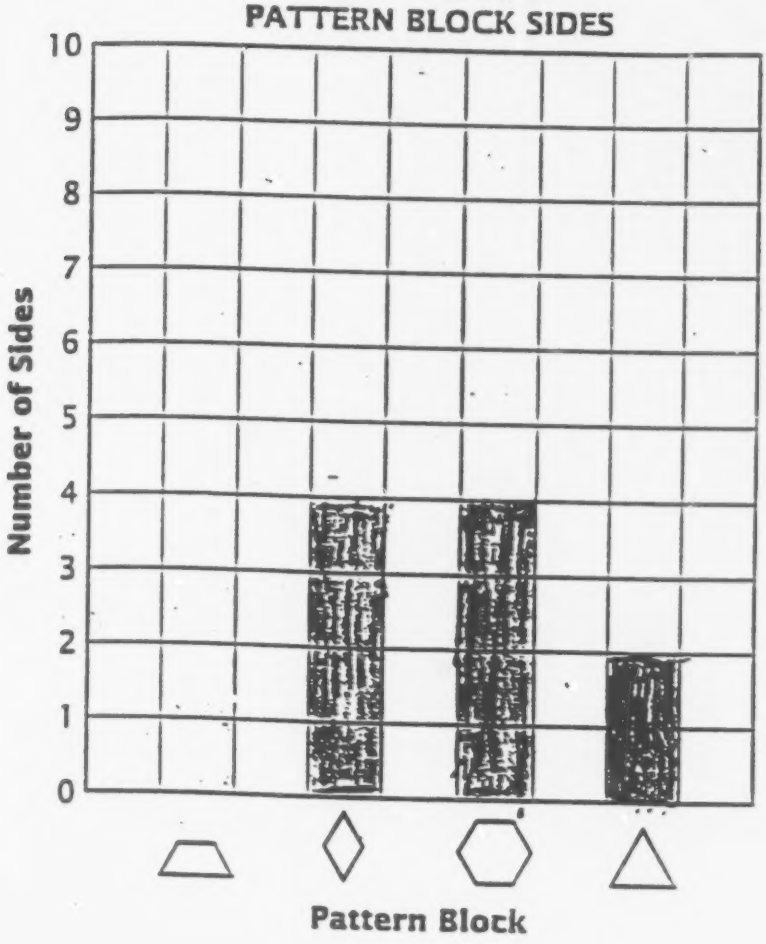
89

Two Or Three Components

30

SCORE 1

10 You start the graph below with a group of students. You want to show the number of sides for each pattern block pictured along the bottom of the graph.



- Draw bars on the graph to show the number of sides for each pattern block.

One bar drawn correctly on the graph to represent the number of sides for the pattern block

Incorrect bar graphs representing trapezoid, hexagon, and triangle

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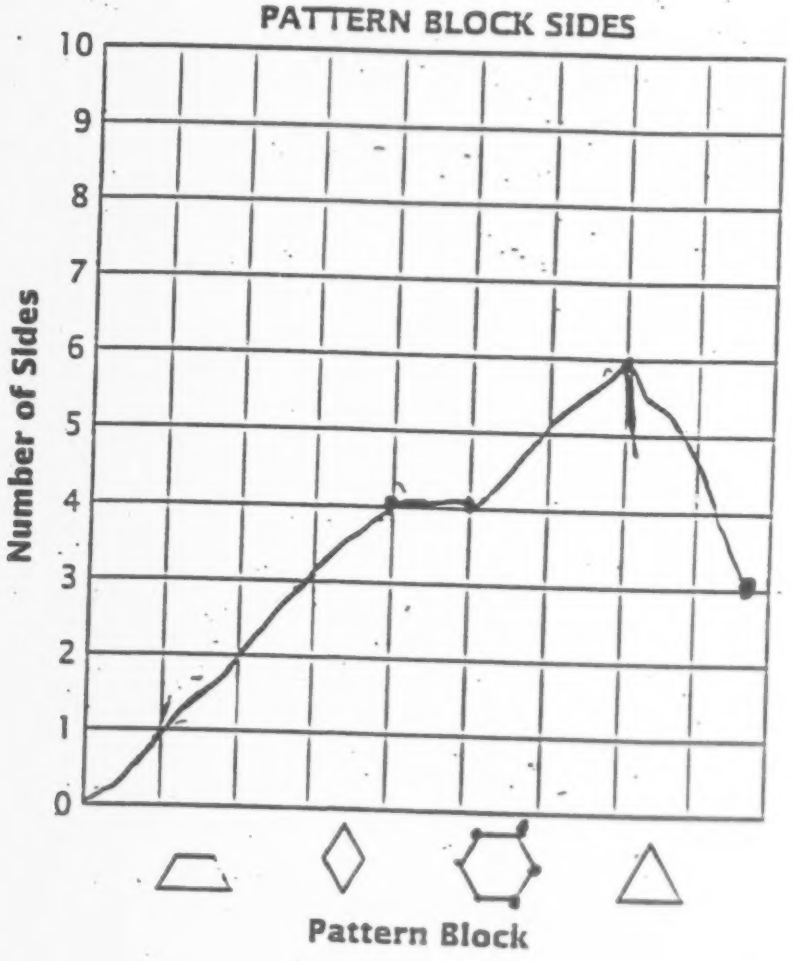
One Component

31

125267 SCORE 0

10 You start the graph below with a group of students. You want to show the number of sides for each pattern block pictured along the bottom of the graph.



Draw bars on the graph to show the number of sides for each pattern block.

No bars drawn for any pattern block—
Drew line graph instead
No credit is given for dots drawn
at the right level

SCORE 2

11) You help Charlie find the missing numbers in the Input/Output table. Complete the table below.

Correctly completes table (10, 13, 16)

Input	Output
4	1
7	4
10	7
13	10
16	13
19	16

In the box below, write the rule you used to find each output number.

subtract 3

Correct rule (Subtract 3)

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Exemplary Response

SCORE 1

11 You help Charlie find the missing numbers in the Input/Output table. Complete the table below.

Input	Output
4	1
7	4
10	7
13	10
16	13
19	16

Correctly completes table (10, 13, 16)

In the box below, write the rule you used to find each output number.

I looked on the input side.

Invalid rule ("I looked on the input side")

95

93

One Component

Session 1

SCORE 0

11 You help Charlie find the missing numbers in the Input/Output table. Complete the table below.

Input	Output
4	1
7	4
10	7
13	3
16	6
19	10

Incorrectly completes table (3, 6, 10)

In the box below, write the rule you used to find each output number.

add 3 to each number.

Invalid rule (Explanation does not support students data)

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SCORE 2

12 You and Theresa find a pattern in the row of clock faces shown below. Draw hands on the *two* blank clocks to complete the pattern.

Correctly completes the clock pattern

BEST COPY AVAILABLE

Exemplary Response (Two Components)

SCORE 1

12 You and Theresa find a pattern in the row of clock faces shown below. Draw hands on the *two* blank clocks to complete the pattern.

Correctly completes the 5 o'clock pattern

Incorrectly draws the wrong time on second clock

One Component

96 98

37

Session 1

SCORE 0

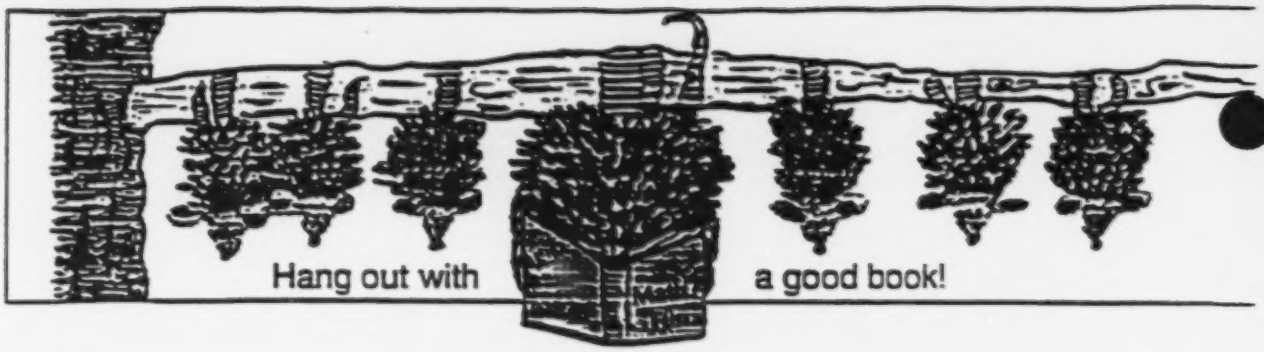
12 You and Theresa find a pattern in the row of clock faces shown below. Draw hands on the *two* blank clocks to complete the pattern.

Incorrectly completes pattern on both clocks

99

38

Item 13
Not Released



BOOKMARK

Directions

Show all of your work and write your answers directly in this booklet.

Use your pattern blocks to help you solve this problem.

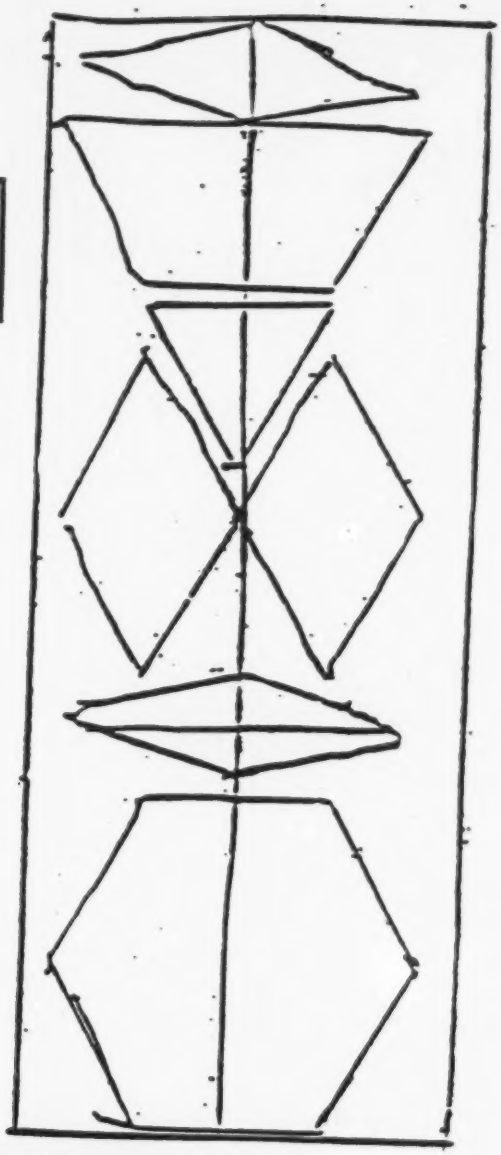
It is time for the Math Fair! Each student who visits the geometry display will be given a bookmark. You have been asked to help create a design for the bookmark.

- On the next page, create a symmetrical design on the bookmark by tracing around ***at least*** 3 different pattern block shapes. Each shape may be used more than one time.
- Draw the line of symmetry on your bookmark.

Use this page to make your bookmark.

SCORE 4

Student used at least 3 different pattern blocks placed symmetrically on bookmark



Line of symmetry is drawn correctly

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The student's response fully addresses the performance event

64

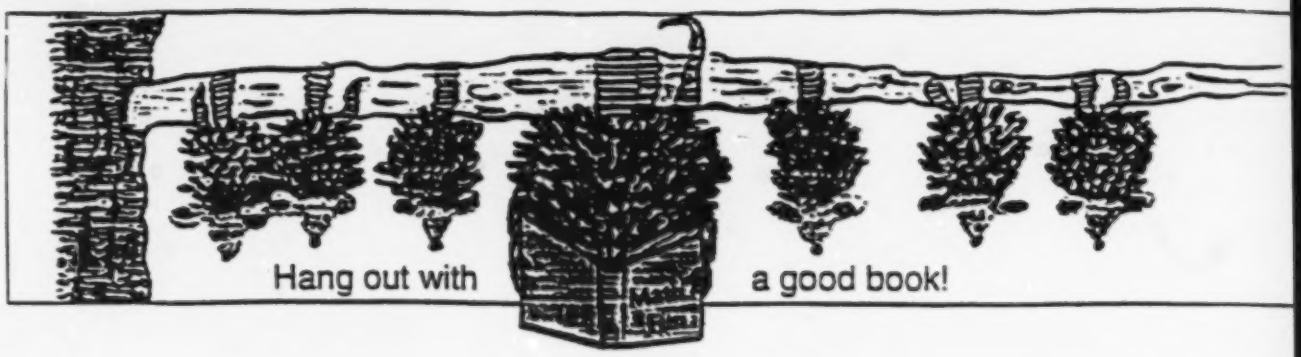
In the box below, explain how you know the design on your bookmark is symmetrical.

If it folds in half it would go together and be the same on each side.

Symmetry is correctly explained

103

65



BOOKMARK

Directions

Show all of your work and write your answers directly in this booklet.

1

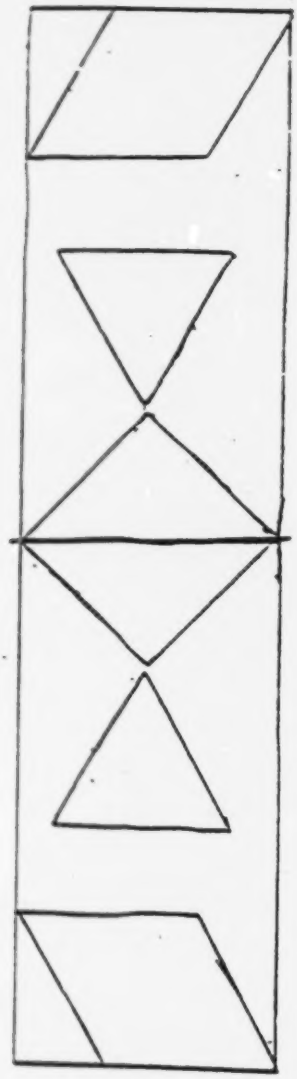
Use your pattern blocks to help you solve this problem.

It is time for the Math Fair! Each student who visits the geometry display will be given a bookmark. You have been asked to help create a design for the bookmark.

- On the next page, create a symmetrical design on the bookmark by tracing around ***at least*** 3 different pattern block shapes. Each shape may be used more than one time.
- Draw the line of symmetry on your bookmark.

SCORE 4

Use this page to make your bookmark.



Student uses three different pattern blocks placed symmetrically on bookmark with a clear line of symmetry drawn

The student's response fully addresses the performance event

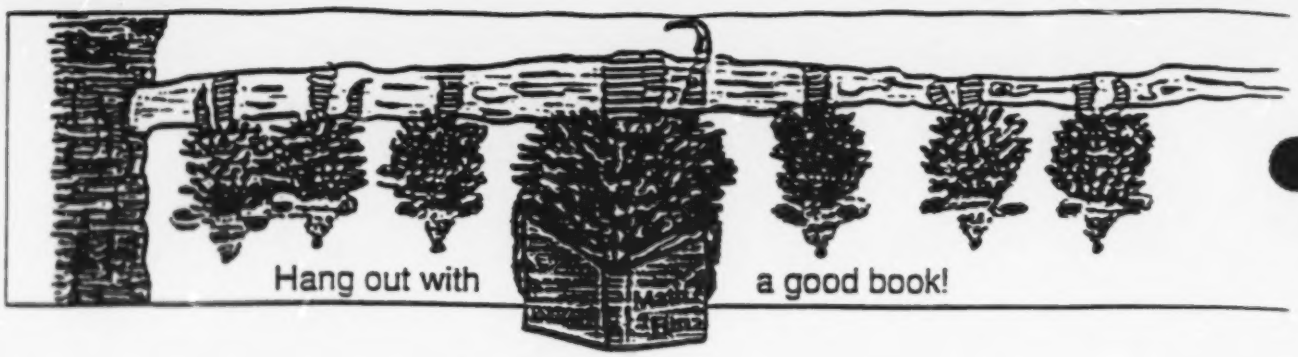
13366205

In the box below, explain how you know the design on your bookmark is symmetrical.

I know that the design is symetrical because both sides have the exact size and position of shapes.

Explanation effectively demonstrates knowledge and understanding of symmetry

133662106



BOOKMARK

Directions

Show all of your work and write your answers directly in this booklet.

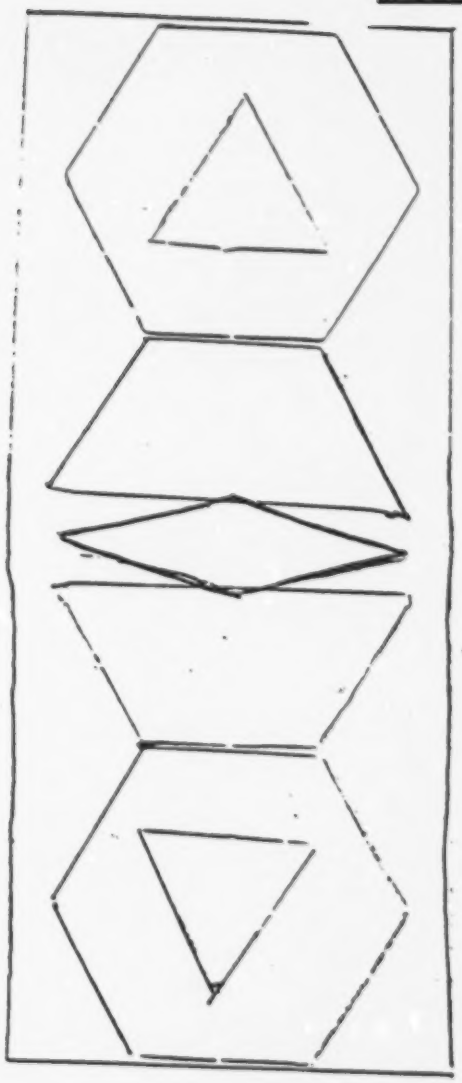
Use your pattern blocks to help you solve this problem.

It is time for the Math Fair! Each student who visits the geometry display will be given a bookmark. You have been asked to help create a design for the bookmark.

- On the next page, create a symmetrical design on the bookmark by tracing around ***at least*** 3 different pattern block shapes. Each shape may be used more than one time.
- Draw the line of symmetry on your bookmark.

Use this page to make your bookmark.

Student used four different pattern blocks placed symmetrically on the bookmark, but lacks line of symmetry, which substantially addresses the event



106

The student's response substantially addresses the performance event

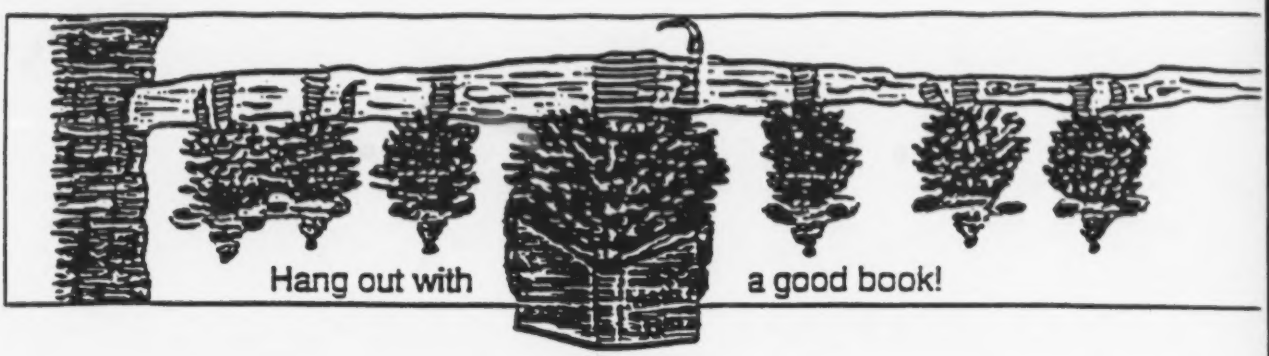
12930/

70

In the box below, explain how you know the design on your bookmark is symmetrical.

It is symmetrical because the designs are the same on the opposite side of the bookmark

Explanation supports the understanding of symmetry



BOOKMARK

Directions

Show all of your work and write your answers directly in this booklet.

Use your pattern blocks to help you solve this problem.

It is time for the Math Fair! Each student who visits the geometry display will be given a bookmark. You have been asked to help create a design for the bookmark.

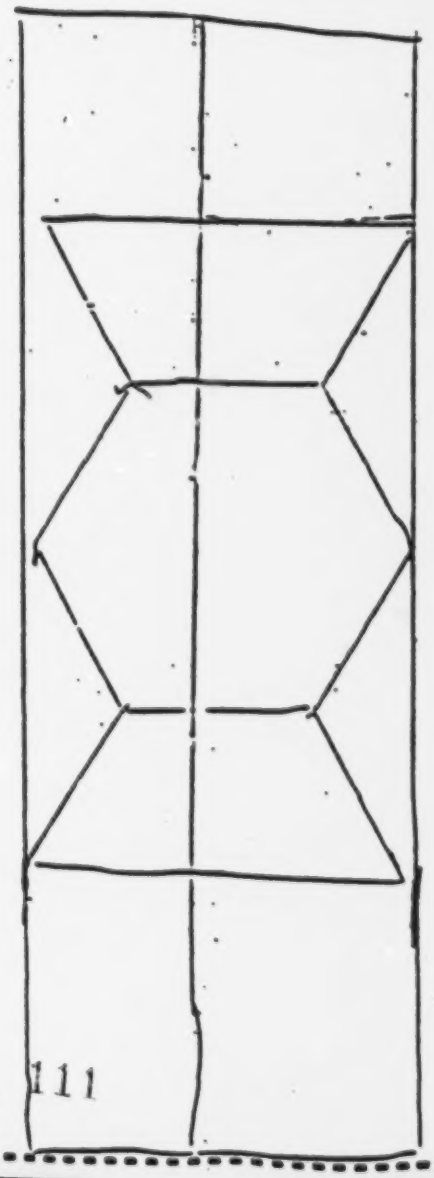
- On the next page, create a symmetrical design on the bookmark by tracing around *at least* 3 different pattern block shapes. Each shape may be used more than one time.
- Draw the line of symmetry on your bookmark.

SCORE 3

Use this page to make your bookmark.

The student's response substantially addresses the performance event

Although the line of symmetry is not in the center of the bookmark, this is acceptable for fourth grade



Student used only two different pattern blocks
Shapes are placed symmetrically

In the box below, explain how you know the design on your bookmark is symmetrical.

It has to will sides on each one of them. I put a line throw the middle it was the same on both sides.

Symmetry is correctly explained

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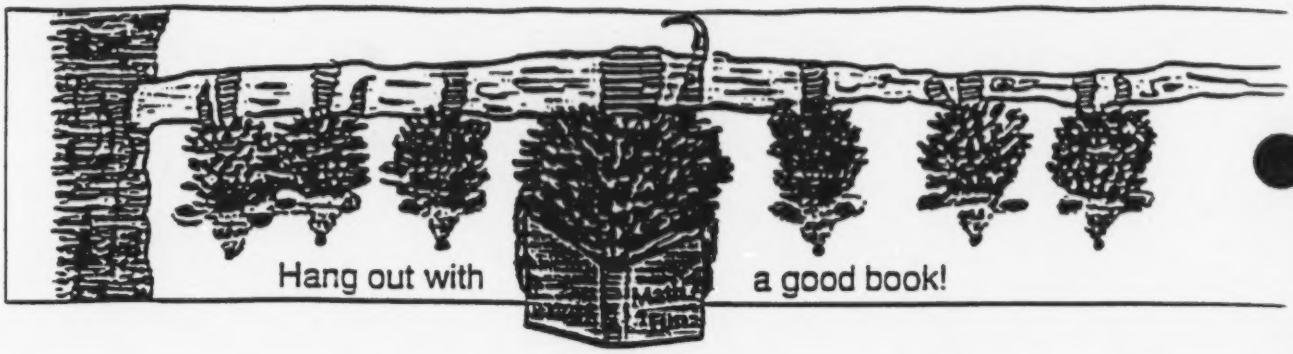


BOOKMARK

Directions

Show all of your work and write your answers directly in this booklet.

Use your pattern blocks to help you solve this problem.

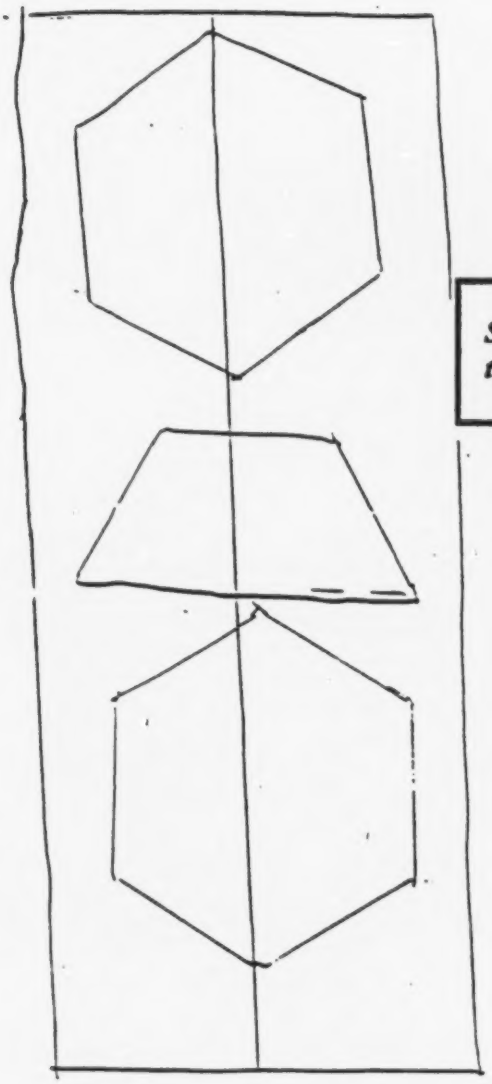
It is time for the Math Fair! Each student who visits the geometry display will be given a bookmark. You have been asked to help create a design for the bookmark.

- On the next page, create a symmetrical design on the bookmark by tracing around ***at least*** 3 different pattern block shapes. Each shape may be used more than one time.
- Draw the line of symmetry on your bookmark.

SCORE 2

Use this page to make your bookmark.

The student's response partially addresses the performance event



Student uses only two different pattern blocks to correctly show line of symmetry

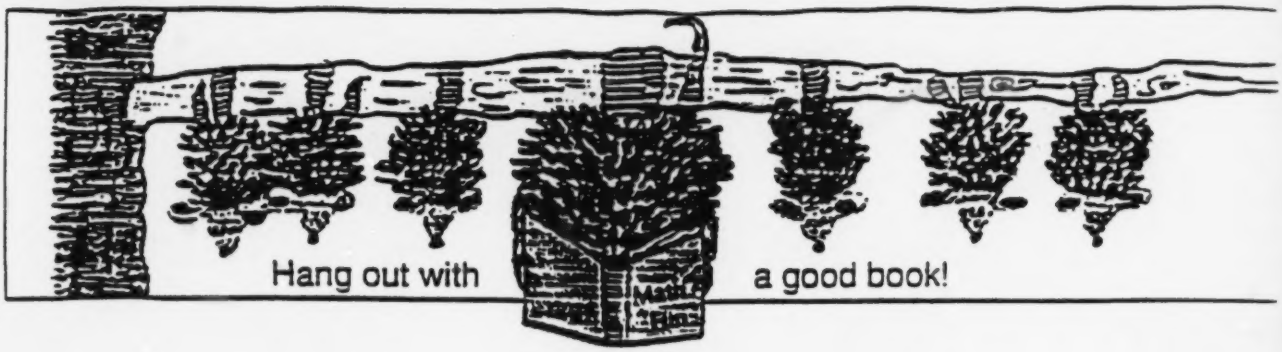
10546 114 76

Session 2

In the box below, explain how you know the design on your bookmark is symmetrical.

It is a pattern

Explanation does not support symmetrical drawing which indicates some lack of understanding or confusion



BOOKMARK

Directions

Show all of your work and write your answers directly in this booklet.

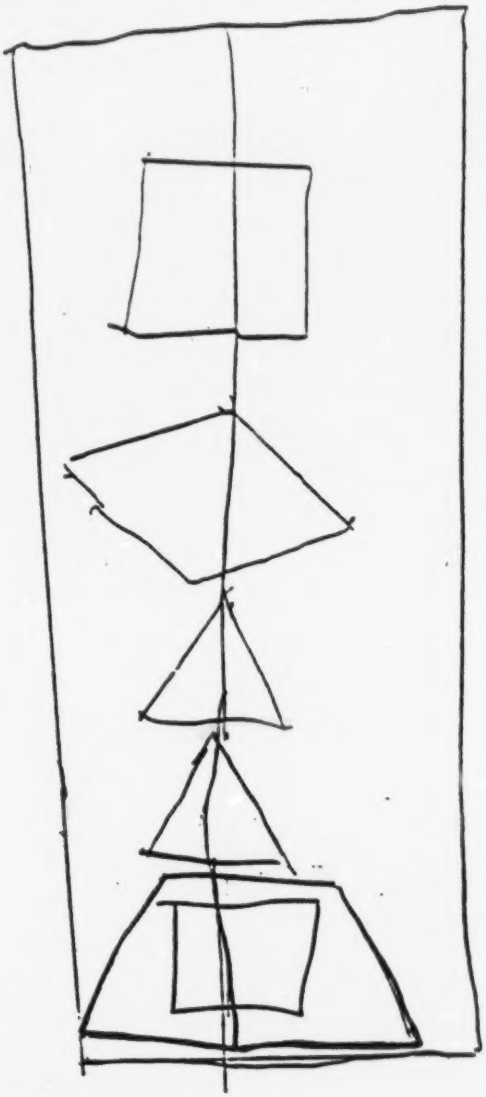
Use your pattern blocks to help you solve this problem.

It is time for the Math Fair! Each student who visits the geometry display will be given a bookmark. You have been asked to help create a design for the bookmark.

- On the next page, create a symmetrical design on the bookmark by tracing around ***at least*** 3 different pattern block shapes. Each shape may be used more than one time.
- Draw the line of symmetry on your bookmark.

SCORE 2

Use this page to make your bookmark.



Student's response uses four different pattern blocks with an apparent line of symmetry

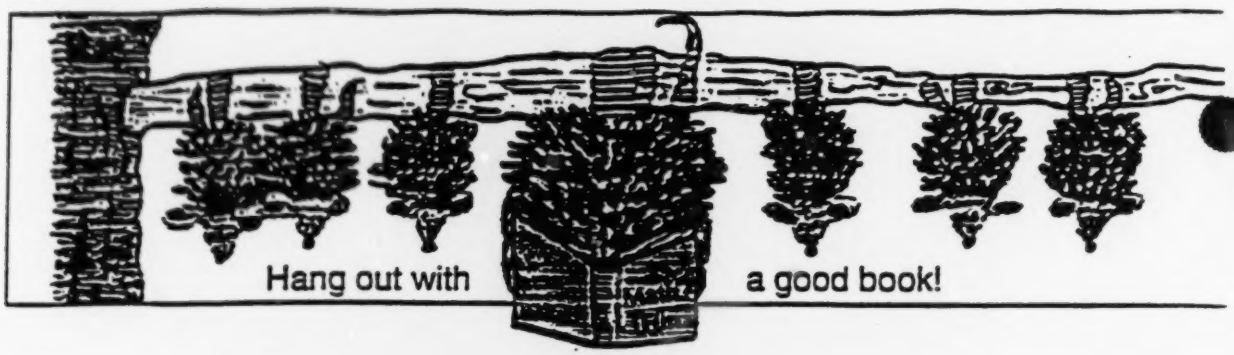
The student's response partially addresses the performance event

115
106110 117

In the box below, explain how you know the design on your bookmark is symmetrical.

I designed it by Putting a Squqz fisrt Then a dimand. Then a tringle. Then another trygale. Then a nother-Saqure.

Explanation does not support symmetrical drawing which indicates some lack of understanding or confusion



BOOKMARK

Directions

Show all of your work and write your answers directly in this booklet.

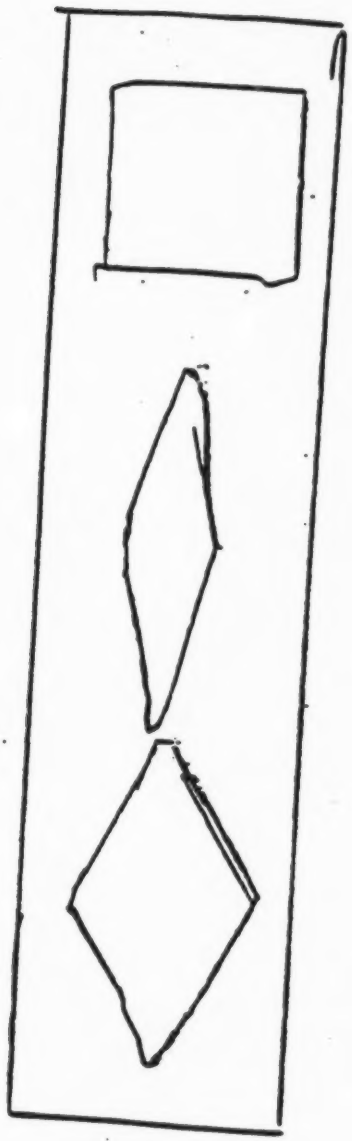
Use your pattern blocks to help you solve this problem.

It is time for the Math Fair! Each student who visits the geometry display will be given a bookmark. You have been asked to help create a design for the bookmark.

- On the next page, create a symmetrical design on the bookmark by tracing around ***at least*** 3 different pattern block shapes. Each shape may be used more than one time.
- Draw the line of symmetry on your bookmark.

Use this page to make your bookmark.

SCORE 1



Student uses three different pattern blocks, design has an appearance of symmetry— No line of symmetry is shown

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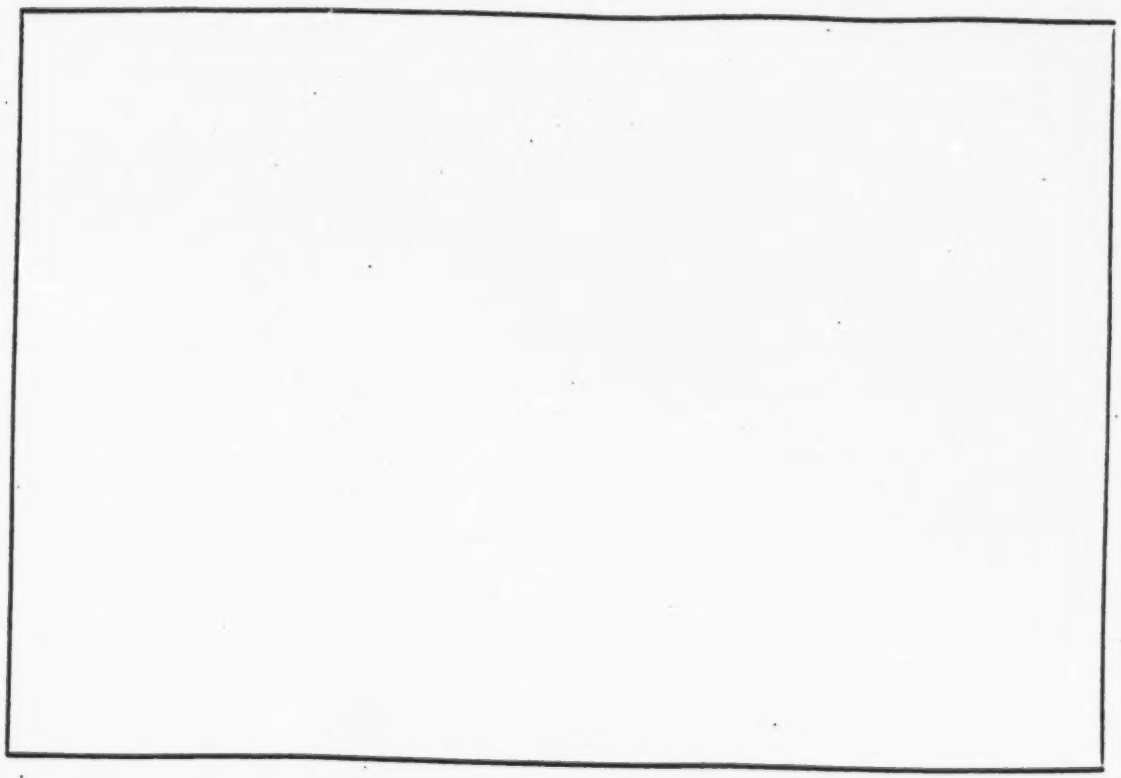
The student's response minimally addresses the performance event

120

82

Session 2B

In the box below, explain how you know the design on your bookmark is symmetrical.



No explanation is given

121

83

Session 2

BOOKMARK

Directions

Show all of your work and write your answers directly in this booklet.

1

Use your pattern blocks to help you solve this problem.

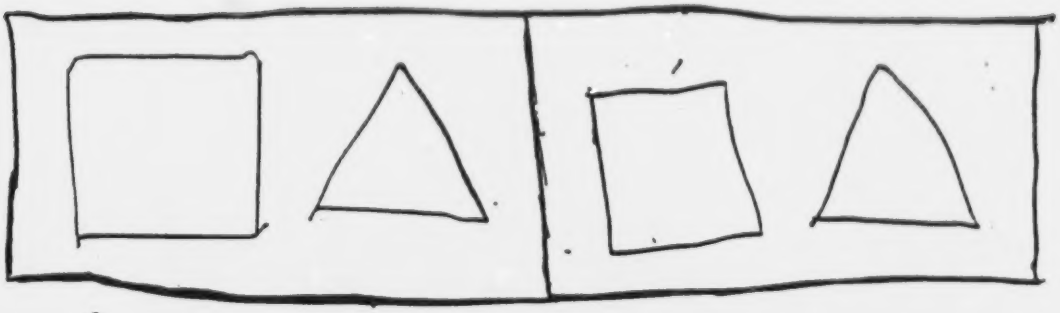
It is time for the Math Fair! Each student who visits the geometry display will be given a bookmark. You have been asked to help create a design for the bookmark.

- On the next page, create a symmetrical design on the bookmark by tracing around ***at least*** 3 different pattern block shapes. Each shape may be used more than one time.
- Draw the line of symmetry on your bookmark.

SCORE 1

Use this page to make your bookmark.

Student uses two different pattern blocks and line of symmetry drawn is incorrect



The student's response minimally addresses the performance event

In the box below, explain how you know the design on your bookmark is symmetrical.

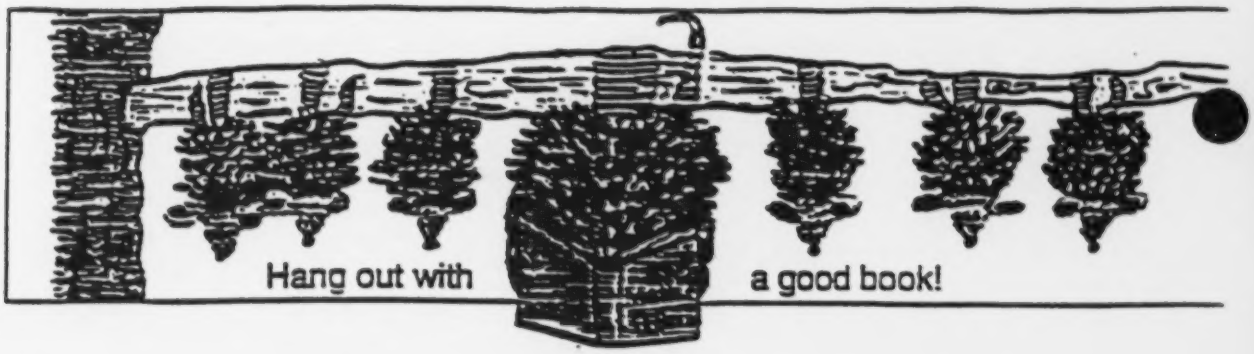
I no the design on my bookmark is symmetrical because they both have the same shapes.

Explanation shows limited knowledge and lack of understanding of symmetry

124

140450

86



BOOKMARK

Directions

Show all of your work and write your answers directly in this booklet.

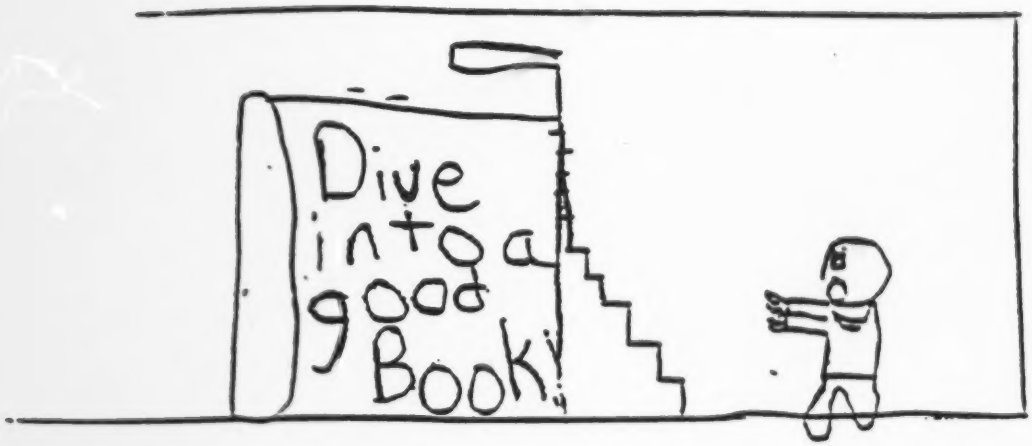
Use your pattern blocks to help you solve this problem.

It is time for the Math Fair! Each student who visits the geometry display will be given a bookmark. You have been asked to help create a design for the bookmark.

- On the next page, create a symmetrical design on the bookmark by tracing around *at least* 3 different pattern block shapes. Each shape may be used more than one time.
- Draw the line of symmetry on your bookmark.

SCORE 0

Use this page to make your bookmark.



The response shows no mathematical understanding of symmetry

In the box below, explain how you know the design on your bookmark is symmetrical.

The people is diving in the book and it says dive into a good Book.

AL AND THE ANGELFISH

SCORE

Directions

Al is learning about angelfish. Numbers 2 through 8 are about angelfish. Show all of your work and write your answers directly in this booklet.

2 Use your coins to help you solve this problem.

Al is saving money to buy angelfish. He has saved 5 quarters, 2 dimes, 4 nickels, and 5 pennies. How much money has Al saved *in all*? Show your work in the box below. Write your answer on the line.

15¢
20¢n
$ 20¢d
1.25 q
$1.70 p

Correct process—Coins converted to dollar amounts ($1.25 + .20 + .20 + .05)

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$ 1.70 *Correct answer ($1.70)* 128 *Exemplary Response*

SCORE 1

AL AND THE ANGELFISH

Directions

Al is learning about angelfish. Numbers 2 through 8 are about angelfish. Show all of your work and write your answers directly in this booklet.

2 Use your coins to help you solve this problem.

Al is saving money to buy angelfish. He has saved 5 quarters, 2 dimes, 4 nickels, and 5 pennies. How much money has Al saved *in all*? Show your work in the box below. Write your answer on the line.

125
20
20
5
180

10
10
$20

2
25
25
25
25
25
$1.25

5
5
5
5
5
$20

1
5

One Component

Correct process—Converts 5 quarters to $1.25, 2 dimes to $.20, 4 nickels to $.20, and 5 pennies to $.05

$ 1.80

Incorrect answer ($1.80)—Computation error

91

AL AND THE ANGELFISH

SCORE 0

Directions

Al is learning about angelfish. Numbers 2 through 8 are about angelfish. Show all of your work and write your answers directly in this booklet.

2 Use your coins to help you solve this problem.

Al is saving money to buy angelfish. He has saved 5 quarters, 2 dimes, 4 nickels, and 5 pennies. How much money has Al saved *in all*? Show your work in the box below. Write your answer on the line.

4 quarters = 1 dollar ÷ 5 quarter is 1 dollar and 5 cents
÷ 2 dimes = 15 cents ÷ 4 nickles = 1 dollar 35 cents
5 pennies = 1 dollar 40 cents

Incorrect process (errors in conversions)

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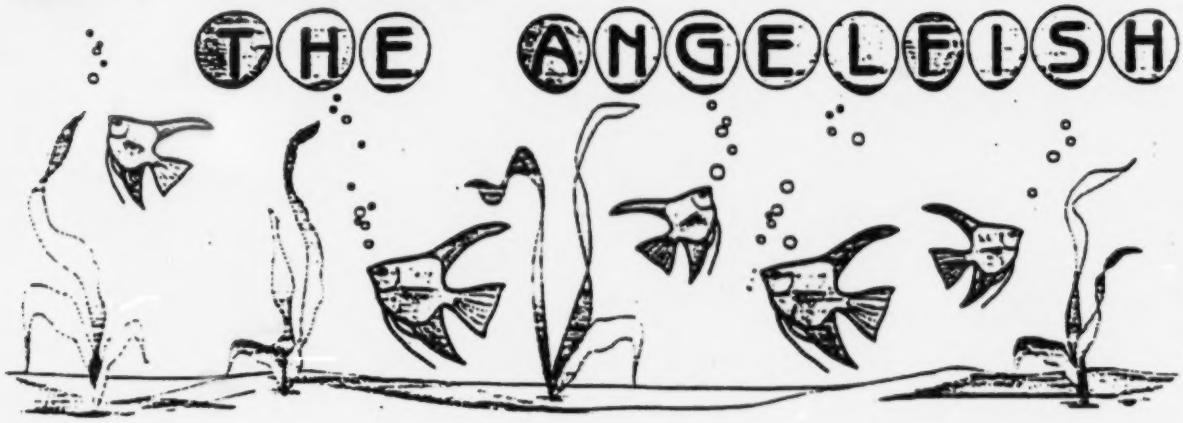
Incorrect answer ($1.40)

$ 1.40

AL AND THE ANGELFISH

SCORE 0



Directions

Al is learning about angelfish. Numbers 2 through 8 are about angelfish. Show all of your work and write your answers directly in this booklet.

2 Use your coins to help you solve this problem.

Al is saving money to buy angelfish. He has saved 5 quarters, 2 dimes, 4 nickels, and 5 pennies. How much money has Al saved *in all*? Show your work in the box below. Write your answer on the line.

1. 25¢ + 25¢ + 25¢ + 25¢ = $1.00

2. 10¢ + 10¢ = 20¢

3. 5¢ + 5¢ + 5¢ + 5¢ + 5¢ = 20¢

4. 1¢ + 1¢ + 1¢ + 1¢ + 1¢ + 1¢ + 1¢ + 1¢ + 1¢ + 1¢ = 10¢

5. $1.00 + .20 + .20 + .5 = $1.90

Omission of a coin or an incorrect value in the process

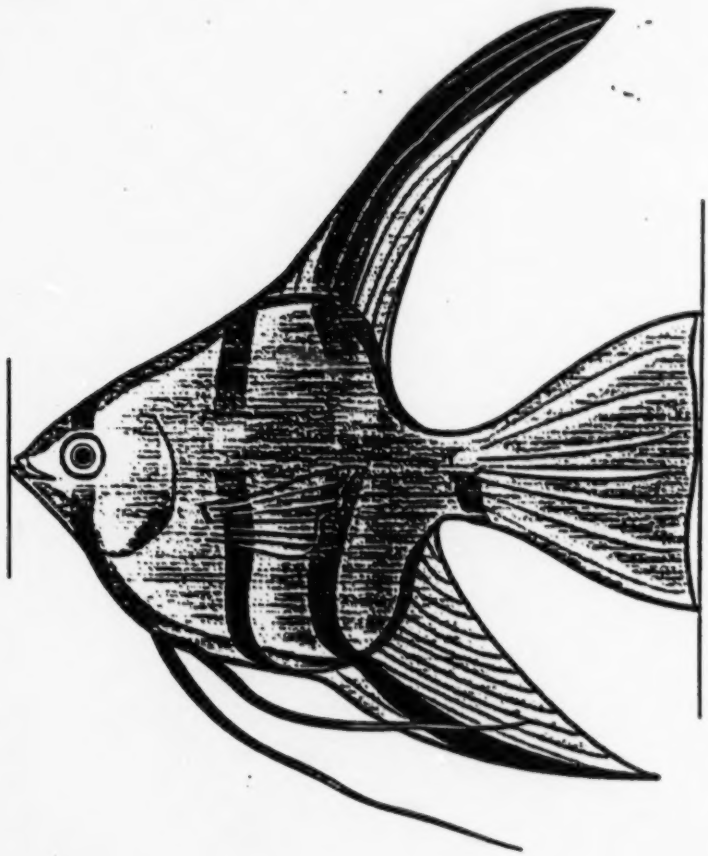
131

$ 1.90

SCORE 1

3 Use the centimeter side of your ruler to help you solve this problem.

Al finds the largest angelfish in the tank at a pet store. Measure the length of the fish below to the nearest centimeter (cm).



How long is the angelfish?

10 cm

Correct measurement (10 cm)

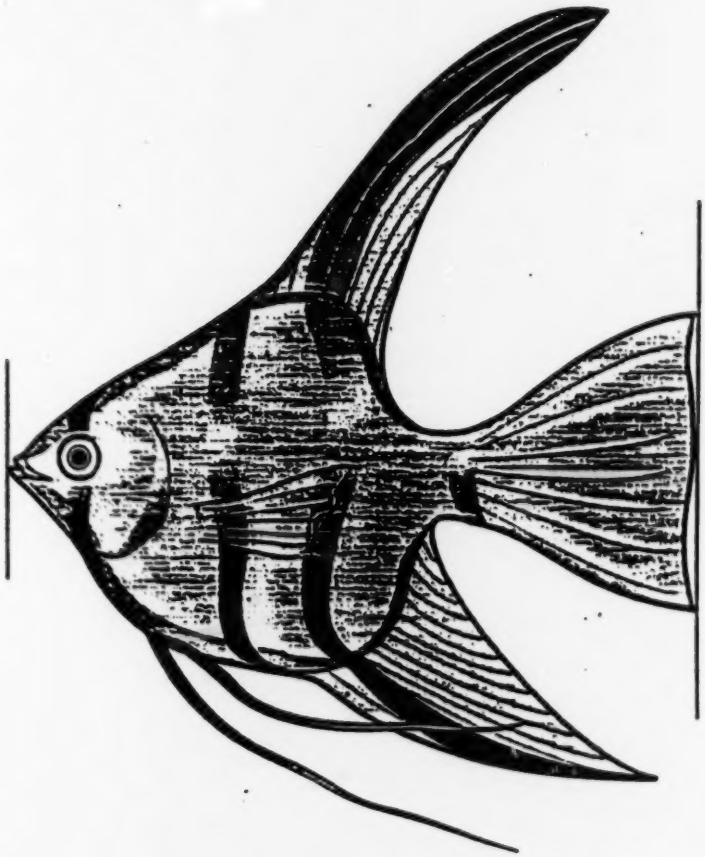
Exemplary Response

3

SCORE 0

Use the centimeter side of your ruler to help you solve this problem.

Al finds the largest angelfish in the tank at a pet store. Measure the length of the fish below to the nearest centimeter (cm).



How long is the angelfish?

11 cm

Incorrect measurement (11 cm)

SCORE 1

4

A customer at the pet store buys 11 fish. Al notices that 8 of the fish are gold and 3 are black. The customer puts a net in the bag to catch 1 fish.

What is the probability that the customer will catch a black fish in the net?

3 out of 11

Correct probability (3 out of 11)

Exemplary Response

Session 2

SCORE 0

4 A customer at the pet store buys 11 fish. Al notices that 8 of the fish are gold and 3 are black. The customer puts a net in the bag to catch 1 fish.

What is the probability that the customer will catch a black fish in the net?

3 out of 8 chances

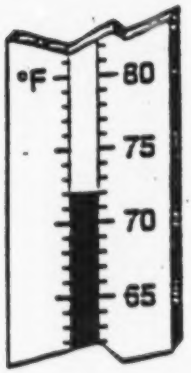
Incorrect probability (3 out of 8 chances)

Session 2

5 Al learned that a safe water temperature for angelfish is between 75° and 86° Fahrenheit (°F).

SCORE 2

What is the temperature on the Fahrenheit thermometer shown below? Write your answer on the line.



Correct temperature (72 degrees F)

72 °F

Explain why the water temperature shown on the thermometer *is* or *is not* a safe temperature for angelfish.

72°F is not safe for angelfish

The temperature should be between

75°F and 86°F

Valid explanation
("Temperature should be between 75 degrees and 86 degrees")

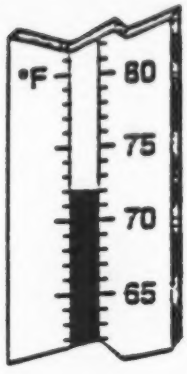
Exemplary Response

BEST COPY AVAILABLE

5 Al learned that a safe water temperature for angelfish is between 75° and 86° Fahrenheit (°F).

SCORE 1

What is the temperature on the Fahrenheit thermometer shown below? Write your answer on the line.



Temperature 72 degrees F

72° °F

Explain why the water temperature shown on the thermometer *is* or *is not* a safe temperature for angelfish.

It is.
It is warm enough for it.

Invalid explanation ("It is warm enough for it")

137

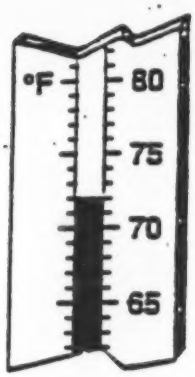
One Component

99

SCORE 0

5 Al learned that a safe water temperature for angelfish is between 75° and 86° Fahrenheit (°F).

What is the temperature on the Fahrenheit thermometer shows below? Write your answer on the line.



Incorrect temperature (73 degrees F)

73 °F

Explain why the water temperature shown on the thermometer *is* or *is not* a safe temperature for angelfish.

It is not safe for an angel fish because it is hot water inside

Invalid explanation
("It is not safe for an angel fish because it is hot water inside")

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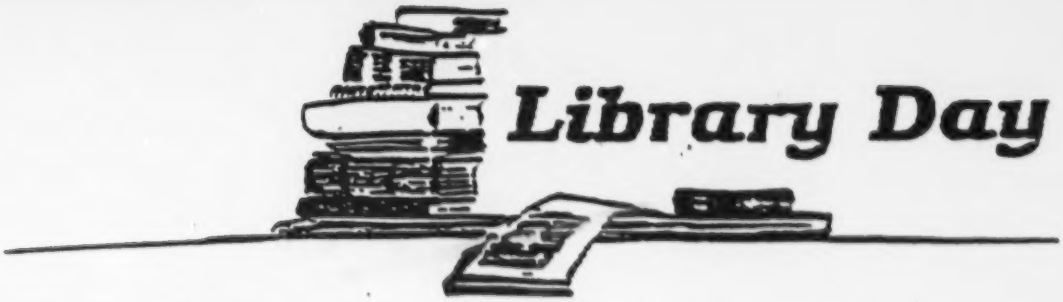
SCORE 3



Library Day

Directions

Numbers 9 through 12 are about a visit to the school library. Show all of your work and write your answers directly in this booklet.

6 The librarian read three books written by Barbara Cooney to the class. Each student voted once for their favorite story. The results are shown in the tally chart below.

CLASS TALLY CHART

Book	Vote
Island Boy	𝍸 𝍸
Miss Rumphius	𝍸 𝍸 |||
Hattie and the Wild Waves	||||

Uses correct information taken fr the tally chart to setup a story pro Asks a question ("How many peop where in her class") Solves the story problem ("10 + 12 + 4 = 26")

In the box below, write a mathematics story problem using information from the tally chart. Ask a question at the end of your story problem and solve the problem.

The librarian read three books to her class 10 people voted for Island boy, 12 voted for Miss Rumphius, and 4 voted for Hattie and the Wild Waves. How many people where in her class. 26 people

10
+12
+4
26

Exemplary Response (Three Components)

SCORE 2

Library Day

Directions

Numbers 9 through 12 are about a visit to the school library. Show all of your work and write your answers directly in this booklet.

6 **The librarian read three books written by Barbara Cooney to the class. Each student voted once for their favorite story. The results are shown in the tally chart below.**

CLASS TALLY CHART

Book	Votes
Island Boy	𝍸 𝍸
Miss Rumphius	𝍸 𝍸 ||
Hattie and the Wild Waves	||||

Asks a question ("Who got the most votes")
Solves the story problem using information from the tally chart (Miss Rumphius)
No statement that includes a setup for a question

In the box below, write a mathematics story problem using information from the tally chart. Ask a question at the end of your story problem and solve the problem.

Island Boy 𝍸 𝍸

Miss Rumphius 𝍸 𝍸 ||

Hattie and the Wild Waves ||||

10 + 12 + 4 = 26

Who got the most votes? Miss Rumphius

101095

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SCORE 2

Library Day

Directions

Numbers 9 through 12 are about a visit to the school library. Show all of your work and write your answers directly in this booklet.

6 The librarian read three books written by Barbara Cooney to the class. Each student voted once for their favorite story. The results are shown in the tally chart below.

CLASS TALLY CHART

Book	Votes
Island Boy	𝍸 𝍸
Miss Rumphius	𝍸 𝍸 ||
Hattie and the Wild Waves	|||

In the box below, write a mathematics story problem using information from the tally chart. Ask a question at the end of your story problem and solve the problem.

Miss Rumphius has 12 votes. Hattie and the Wild Waves has 4 votes. How many more votes did Miss Rumphius have.

178368

103

Student uses correct information from the tally chart to ask a question
The solution is missing

SCORE 1

Library Day

Directions

Numbers 9 through 12 are about a visit to the school library. Show all of your work and write your answers directly in this booklet.

6 The librarian read three books written by Barbara Cooney to the class. Each student voted once for their favorite story. The results are shown in the tally chart below.

CLASS TALLY CHART

Book	Votes
Island Boy	𝍸 𝍸
Miss Rumphius	𝍸 𝍸 ||
Hattie and the Wild Waves	||||

In the box below, write a mathematics story problem using information from the tally chart. Ask a question at the end of your story problem and solve the problem.

Miss Rumphius won

Response clearly indicates a solution to a story problem

109054

104

SCORE 1

Library Day

Directions

Numbers 9 through 12 are about a visit to the school library. Show all of your work and write your answers directly in this booklet.

6 The librarian read three books written by Barbara Cooney to the class. Each student voted once for their favorite story. The results are shown in the tally chart below.

CLASS TALLY CHART

Book	Votes
Island Boy	𝍸 𝍸
Miss Rumphius	𝍸 𝍸 ||
Hattie and the Wild Waves	|||

In the box below, write a mathematics story problem using information from the tally chart. Ask a question at the end of your story problem and solve the problem.

10
10
4
26

Uses correct information taken from the tally chart (10 + 12 + 4 = 26)

SCORE 0

Library Day

Directions

Numbers 9 through 12 are about a visit to the school library. Show all of your work and write your answers directly in this booklet.

6 The librarian read three books written by Barbara Cooney to the class. Each student voted once for their favorite story. The results are shown in the tally chart below.

CLASS TALLY CHART

Books	Votes
Island Boy	𝍸 𝍸
Miss Rumphius	𝍸 𝍸 ||
Hattie and the Wild Waves	|||

In the box below, write a mathematics story problem using information from the tally chart. Ask a question at the end of your story problem and solve the problem.

Response does not use information from the tally chart, pose a question or solve a problem

Miss Rumphius

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10973

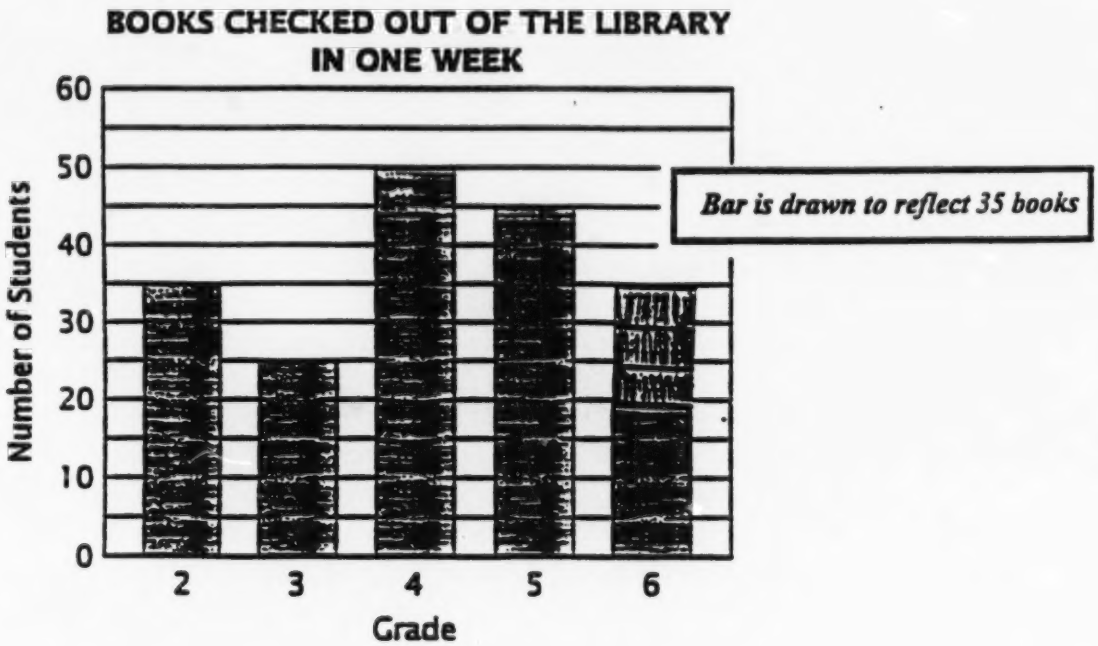
106

SCORE 2

Directions
Study the bar graph below. Then do Numbers 10 and 11.

7 This graph shows the number of books that were checked out of the library in one week by each grade. After the graph was made, 15 *more* books were checked out by Grade 6 students.

On the graph below, correct the bar to show the total number of books checked out by Grade 6 students.



How many books *in all* were checked out by Grade 6 students?

35 books

Correct answer (35 books)

143

Exemplary Response (Two Components)

107

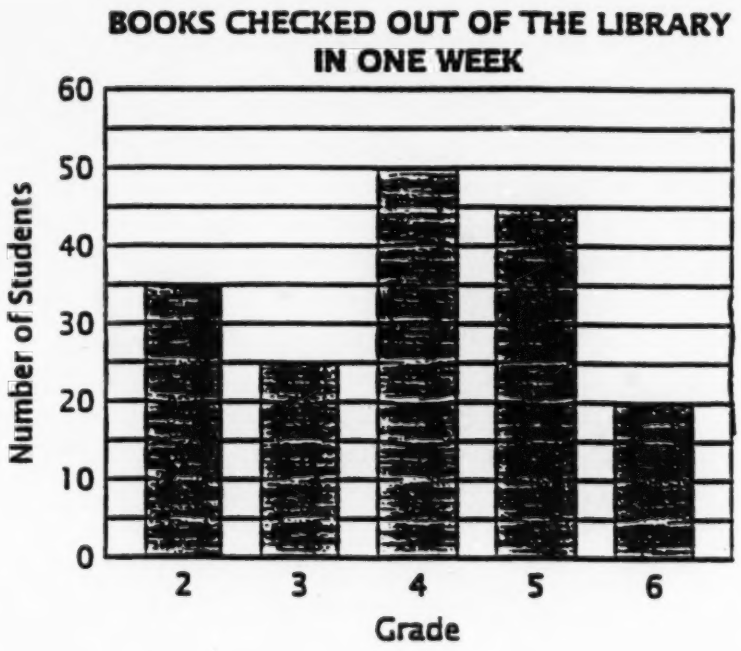
SCORE 1

Directions

Study the bar graph below. Then do Numbers 10 and 11.

7 This graph shows the number of books that were checked out of the library in one week by each grade. After the graph was made, 15 *more* books were checked out by Grade 6 students.

On the graph below, correct the bar to show the total number of books checked out by Grade 6 students.



No bar drawn

How many books *in all* were checked out by Grade 6 students?

35 books

$$\begin{array}{r} 20 \\ +\ 15 \\ \hline 35 \end{array}$$

Correct answer (35 books)

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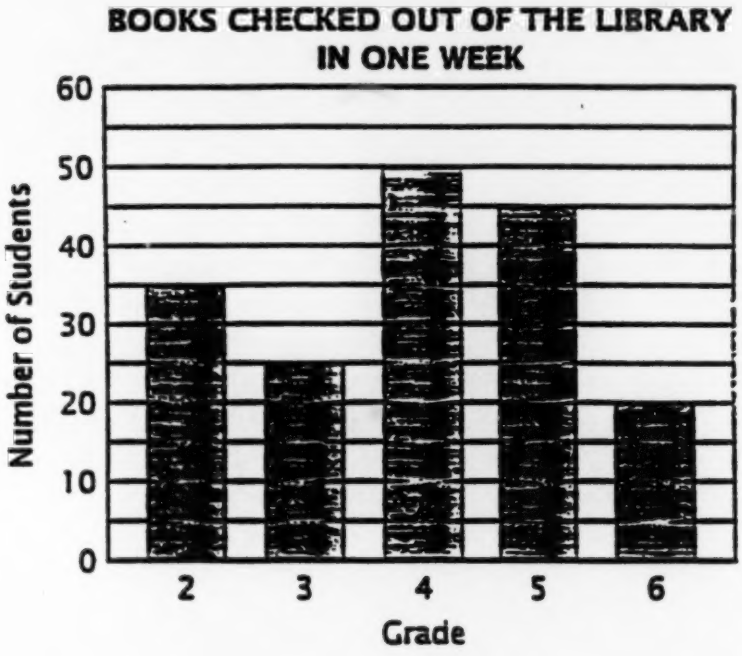
One Component

SCORE 0

Directions
Study the bar graph below. Then do Numbers 10 and 11.

7 This graph shows the number of books that were checked out of the library in one week by each grade. After the graph was made, 15 *more* books were checked out by Grade 6 students.

On the graph below, correct the bar to show the total number of books checked out by Grade 6 students.



No bar drawn

How many books *in all* were checked out by Grade 6 students?

20 books

Incorrect answer (20 books)

147

109

SCORE 1

8 How many ***more*** books were checked out by students in Grade 5 than by students in Grade 3 ?

20 books

Correct answer (20 books)

Exemplary Response

Session 2

SCORE 0

8 How many ***more*** books were checked out by students in Grade 5 than by students in Grade 3 ?

25 books

Incorrect answer (25 books)

Session 2

///

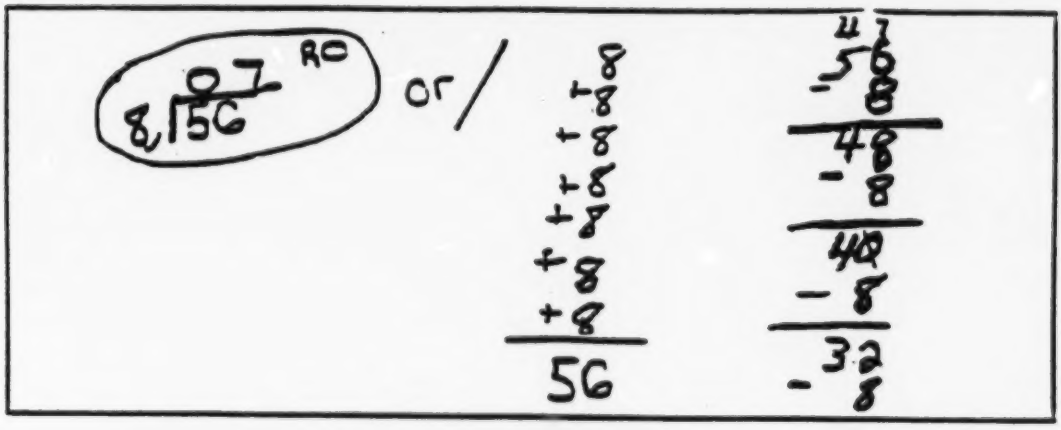
SCORE

9 For every 8 pages Eli reads, a star is added to his reading chart. Complete the number sentence below to show the number of stars Eli will have after reading 56 pages of his book.

$8 \times \boxed{7} = 56$

Correct answer (7)

In the box below, show how you found your answer.



Valid explanation (56 divided by 8 is 7)

Exemplary Response

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SCORE 1

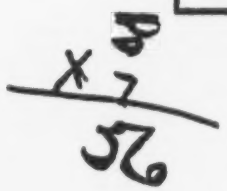
9 For every 8 pages Eli reads, a star is added to his reading chart. Complete the number sentence below to show the number of stars Eli will have after reading 56 pages of his book.

$8 \times \boxed{7} = 56$

Correct answer (7)

In the box below, show how you found your answer.

Invalid explanation
Copying of problem already given



One Component

151

SCORE 0

9 For every 8 pages Eli reads, a star is added to his reading chart. Complete the number sentence below to show the number of stars Eli will have after reading 56 pages of his book.

$8 \times \boxed{8} = 56$ *Incorrect answer (8)*

In the box below, show how you found your answer.

8+8 equal 56

Incorrect explanation (8 times 8 is 56)

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